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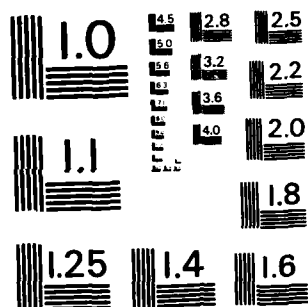
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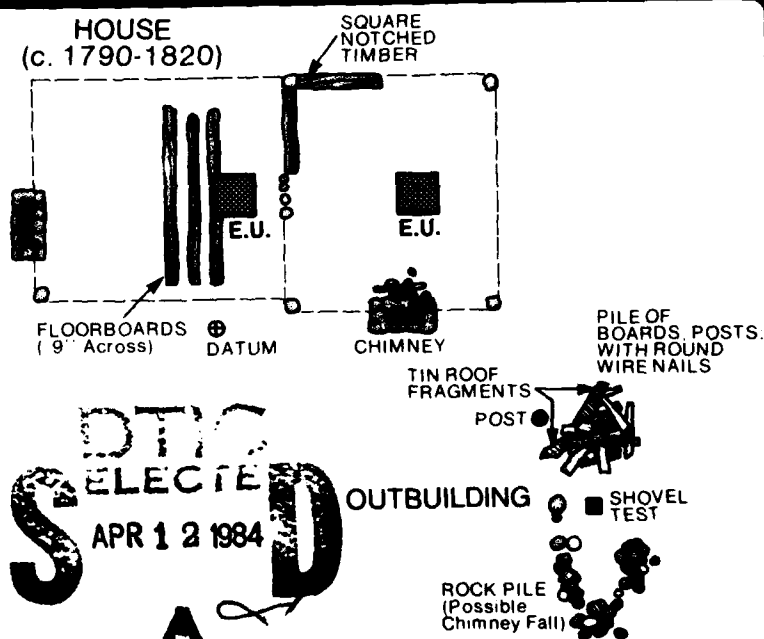
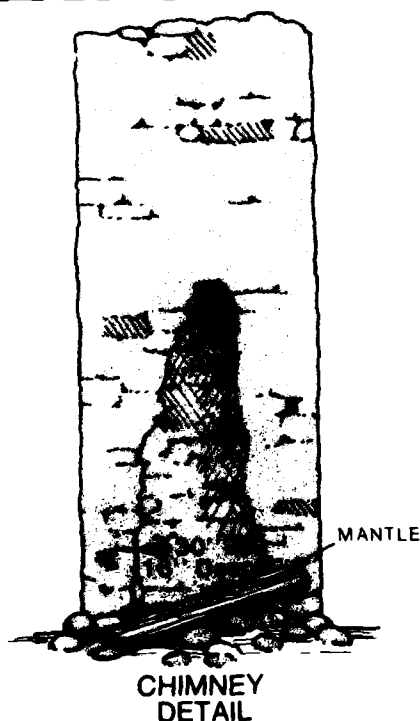
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A CULTURAL RESOURCE SURVEY of the Proposed Recreational Development Areas & Wildlife Subimpoundments at the B. EVERETT JORDAN DAM & LAKE



Volume I

U.S. Army Corps of Engineers, Wilmington District



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-Also, the present research sought to correlate the factors which influence Early Historic settlement strategies. The factors considered important were: 1) environmental: soil productivity; 2) environmental and cultural: proximity to major rivers or streams which provided at least seasonal transportation to regional markets; and 3) cultural: proximity to principal roads which provided access to the county seat and regional markets.

**A CULTURAL RESOURCE SURVEY OF THE PROPOSED
RECREATIONAL DEVELOPMENT AREAS AND WILDLIFE SUBIMPOUNDMENTS
AT B. EVERETT JORDAN DAM AND LAKE**

PREPARED BY:

**COMMONWEALTH ASSOCIATES INC.
209 EAST WASHINGTON AVENUE
JACKSON, MICHIGAN 49201**

BY CO-PRINCIPAL INVESTIGATORS

**CHARLES E. CANTLEY
JOHN R. KERN, Ph.D.**

Charles E Cantley
John R Kern

PREPARED FOR:

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
P.O. BOX 1890
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MANAGEMENT SUMMARY

PURPOSE OF THE REPORT

This is a technical report of archeological and historical investigations undertaken in the proposed recreational development and wildlife subimpoundments at B. Everett Jordan Dam and Lake. The archeological survey was conducted by Commonwealth Associates Inc. under terms of contract number DACW54-82-R-0020, issued by the U.S. Army Corps of Engineers, Wilmington District. The investigations performed under this agreement were aimed at providing the Corps of Engineers with data on the cultural resources occurring within the proposed development and subimpoundment areas through a program of systematic shovel testing of forested areas and surface inspection of all nonvegetated areas.

OBJECTIVES OF THE STUDY

The primary objective of this study was to locate and evaluate the cultural resources discovered within the geographic boundaries of the proposed recreation development and wildlife subimpoundment areas. A systematic study of the proposed areas was conducted to locate and record archeological and historic sites, and to relocate sites already recorded by archeologists working in the reservoir area. The data on site location and composition were compiled and analyzed in the framework of a general model of subsistence/settlement and mobility patterns for hunter-gatherers and early European settlement. To further aid the evaluation process, 186 prerecorded archeological sites located throughout the project area were reanalyzed to obtain a regional perspective on temporal and site locational properties in the B. Everett Jordan project vicinity.

STUDY RESULTS

A total of 94 archeological sites were recorded during the survey of six recreational development areas and seven wildlife subimpoundments, of which 36 prehistoric occupations ranging from Paleo-Indian through Protohistoric times, 29 historic occupations reflecting both nineteenth and twentieth century habitations, and 49 occupations unidentified as to temporal period were identified. The data from the sites discovered during the present survey and from the additional 186 prerecorded sites indicate that general models of hunter-gatherer subsistence/settlement and mobility patterns can be successfully applied to the B. Everett Jordan Lake area to formulate predictive models of site location. According to the model proposed here, three major shifts were observed in the subsistence/settlement strategies employed by prehistoric human groups living in the study area over the past 12,000 years. The first shift in subsistence/settlement strategies was observed at a time late in the Early Archaic period when human groups were beginning to move away from a collector style of adaption to a mobility strategy emphasizing a foraging adaptation. By Late Archaic times, the foraging adaptation had reached its zenith with numerous sites located throughout the study area. However, during the Late Archaic/Early Woodland transition period the second subsistence/settlement pattern shift occurred with a return to a collector-like adaptation. Early Woodland sites were less frequent and more strategically located to exploit a narrow range of resources. Also, an increased

reliance on the exploitation of headwater regions of stream valleys occurred during this time. The intensive use of the headwater regions continued throughout later Woodland and Protohistoric periods. In fact, the earliest accounts of aboriginal life by European explorers document the presence of Indian villages in the headwater regions during the turn of the seventeenth and eighteenth centuries.

The evaluation of historic sites discovered during the present survey was accomplished by the development of a subsistence-settlement model for early frontier farmsteads. The model established the parameters (environmental and cultural) influencing settlement strategies and predicted locations of homesites within the study area. It was argued that key variables such as transportation networks (both water and terrestrial), topography, available farmland and vegetation resources all played important roles in the decision as to the location of farmsteads. Using the criteria established by the model, one district, including the survey items Bells Landing and the North Carolina Division of Forestry, was selected as the optimal location for the discovery of early farmsteads in the study area. Results of the investigations of architectural and material culture remains of historic sites located in this district confirm the existence of an early farmstead community dating from the 1820s and persisting into the 1900s. The proposed New Hope Rural Historical Archeological District provides a unique opportunity for the study of early farmstead lifestyles focusing on such aspects as economic growth, community patterns, dietary preferences and factors which lead to the eventual abandonment of properties in the Piedmont region. Unfortunately, in the past, research interest in farmsteads has taken a backseat to studies of "larger" and "more exciting" high status plantations, resulting in a skewed perception of how the majority of individuals within lower socioeconomic classes lived. Therefore, nine sites (eight farmsteads and one graveyard) are judged significant and should be preserved due to their potential in providing important information on early European settlement and land use patterns for the project vicinity.

SIGNIFICANCE OF THE RESULTS

The results of the present study have provided an interpretive framework for understanding the prehistoric and historic use of the New Hope River valley and its relation to the prehistory of the North Carolina Piedmont region. The model of aboriginal and early historic environmental exploitation and settlement pattern presented here can be tested by future work and can be modified or expanded as necessary to be applicable to a greater area of the Piedmont physiographic province.

RECOMMENDATIONS

A review of the prehistoric cultural resources discovered during the present survey indicates that only one site, 31Dh351, exhibits the qualities of site integrity, quantity, variety, clarity and environmental context sufficient for inclusion to the National Register of Historic Places.

Site 31Dh351 is located in the headwater region of the New Hope drainage, an area identified as particularly sensitive for the understanding of Woodland adaptations in the project vicinity. The site was discovered during systematic shovel testing of the southwest edge of a flat wooded ridgenose

overlooking a swampy floodplain. Shovel tests spaced at 20 m intervals produced numerous artifacts including quartz and metavolcanic debitage, bifaces, stemmed projectile points and fire-cracked rock. The density of artifacts and the depth in which they were discovered indicates the potential for nondisturbed intact cultural components with associated in situ features. Analysis of data (particularly subsistence remains) recovered from sites such as 31Dh351 can provide valuable insights on Early Woodland subsistence-settlement strategies.

Seven other archeological sites including 31Ch237, 31Ch515, 31Ch521, 31Ch566, 31Ch533 and 31Ch501 were identified as containing important information but were not of sufficient quality to recommend inclusion on the National Register of Historic Places. Most of these sites retained shallow subsurface deposits on localized areas of the site. It was recommended that an archeologist be present at these sites if adversely affected by proposed construction activities. The principal duty of the archeologist would be to collect items or quickly remove any features that are uncovered by this construction.

The remainder of the prehistoric cultural resources discovered during the present survey have low significance evaluations due to a variety of destructive forces including erosion, road construction, temporary inundation by the lake and wave action along the shoreline. A large number of reported sites are located along the conservation pool shoreline, an area heavily disturbed by clearcutting activities associated with the deforestation of the lake prior to inundation. Also, this area is occasionally flooded when the water level of the lake reaches flood pool stage. The combination of deforestation, wave action and occasional inundation of this region has resulted in massive erosion of the affected lands and the destruction of the significant qualities of the archeological sites located there.

Nine historic sites (eight farmsteads and one graveyard located within the proposed New Hope Rural Historical Archeological District) were judged significant and should be preserved, due to their potential in providing important information on early European settlement and land use patterns for the project vicinity. Sites judged significant within the district include farmsteads 31Ch538, 31Ch539, 31Ch540, 31Ch541, 31Ch543, 31Ch565, 31Ch564, 31Ch526 and cemetery 31Ch542.

More intensive archival and archeological investigation of representative antebellum and postbellum site occupations in the study area promises to provide information on important research questions dealing with the little studied mixed agriculture plantation economy practiced on the lower Haw and New Hope rivers. Such questions should focus on socioeconomic stratification between slaveholders and yeoman farmers as evidenced by differences in farmstead layout and agricultural implements, differences in erosive land use, and differences in house types and household furnishings. The antebellum cultural landscape should be examined in terms of economic interaction between planters and yeomen, and between agricultural units, local mill sites and dispersed trade centers.

Examination of postbellum occupation should address research questions dealing with the transition from slave to tenant farming, the increase of cash crop tobacco cultivation, consequent erosive land use, and cropland abandonment. Material culture socioeconomic stratification should be examined between landlords and tenants, between renters and croppers and between black and white farm unit occupations. The cultural landscape should be addressed in terms of changes over time in farmstead layout and house type modification, and in terms of

patterns of economic exchange between landlords and tenants and between farmsteads, local country stores and county and regional trade centers.

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CHAPTER I

INTRODUCTION

In May 1982, Commonwealth Associates Inc. received authorization from the U.S. Army Corps of Engineers, Wilmington District, to proceed with archeological investigations of the areas of proposed recreational development and proposed wildlife subimpoundments at B. Everett Jordan Dam and Lake, North Carolina. The area requiring survey was approximately 4300 acres, located in the upper northwest portion of the Cape Fear River Basin covering portions of Chatham, Durham, Orange and Wake counties, North Carolina.

Project start up efforts began in mid-June 1983 with Dr. John R. Kern and Charles E. Cantley as project Co-Principal Investigators respectively responsible for historic and prehistoric investigations. Field historical background research began on June 28, 1982, when Kern met with the following North Carolina Division of Archives and History staff: David J. Olson, State Archivist; Dr. Jerry C. Cashion, head of the Research Branch of the Archeology and Historic Preservation Section; Jerry L. Cross, Historian; Dolores A. Hall of the Archeology Branch, and Jo Ann Williford, Survey Specialist for the Survey and Planning Branch of the Archeology and Historic Preservation Section. Kern conferred with these individuals on appropriate research bibliography and data on previously recorded sites. He also conducted research at the North Carolina State Archives, at the Southern Historical Collection and the North Carolina Collection - both in the Louis Round Wilson Library of the University of North Carolina at Chapel Hill - at the Pittsboro Memorial Library and at the Register of Deeds in the Chatham County Courthouse in Pittsboro.

On June 29, 1982, Kern and Cantley met with Corps of Engineers Archeologist Richard H. Lewis for a field inspection of the study area. The following day Kern, Cantley and Lewis met with North Carolina Division of Archives and History Archeology Branch personnel Dolores Hall, Stephen R. Claggett and John W. Clauser, Jr., to discuss the project prior to commencement of fieldwork on July 1, 1982. All of the individuals working at the Archeology Branch Division of Archives and History were extremely helpful and promptly provided information whenever it was requested.

Archeological fieldwork under the supervision of Charles Cantley was completed in July and August 1982. In addition to Cantley, the field crew was comprised of Richard A. Knecht, Ronnie H. Rogers and Stanley J. Bukowski, with Knecht responsible for historic site recordation. Upon return from the field, a collaborative report effort was undertaken by the following individuals: Description of the Study Area, Andrea Lee Novick and Cantley; Archeological Background, Cantley; Historical Background, Kern; Architectural Background, Knecht; Prehistoric Research Design, Cantley; Historic Research Design, Novick with input from Cantley, Knecht and Kern; Prehistoric Methodology, Cantley; Historic Methodology, Jenalee Muse and Novick; Prehistoric Site Descriptions, Rogers with input from Cantley and Novick; Historic Site Descriptions, Knecht with input from Cantley and Novick; Prehistoric Artifact Analysis, Cantley; Historic Artifact Analysis, Muse with input from Knecht and Novick; Results and Conclusions, Cantley; Management Summary and Recommendations, Kern and Cantley. Report

editing was the responsibility of Monica J. Collett, and graphics were prepared by Stephen R. Treichler and Julie C. Ratliff.

Both Novick and Cantley would like to acknowledge the hospitality given to them by Ed Jackson and Susan Scott during the data reduction stage of the project. They provided us food, lodging and a sympathetic ear while learning the Michigan computer system. Also, Paul Welsh and Robert Kelley donated their valuable time to instruct the authors in the use of the Michigan Interactive Data Analysis System.

The study could not have been undertaken without the efficient and cheerful support and direction received from the Wilmington District, Corps of Engineers Authorized Representative of the Contracting Officer, Richard M. Jackson, and especially from archeologist Richard H. Lewis.

CHAPTER II

DESCRIPTION OF STUDY AREA

INTRODUCTION

Recently, archeologists have argued for the necessity of investigating environmental parameters that play a fundamental role in influencing and structuring human adaptation (e.g., Binford 1978b:11-12; Smith 1975). While environmental data are presented in previous reports specific to the project area (e.g., Autry 1976:1-4; Claggett and Cable 1982:125-222; Coe 1964:14-21; Newkirk 1979:3-5; McCormick 1970:3-5; Smith 1965:4-5; Thomas et al. 1981:15-14), the following discussion is presented to summarize the salient aspects of the ecological parameters that influenced settlement strategies and site use. In both prehistoric and historic times, human groups depended upon the local environment for a variety of resources. Forests were used as primary resources for building materials, firewood, and plant foods, as well as secondary resources including game; geology at the surficial level influenced travel and settlement, while bedrock geology served as a source of chipped stone tool manufacture and stone masonry.

Ecological data for the project vicinity are presented below to provide a basis for formulating theoretical models useful in interpreting observed variability in site structure and subsistence-settlement patterns.

GEOLOGICAL BACKGROUND

A number of studies on North Carolina's geology are available. The following discussion draws from a variety of these; however, John A. Reinemund's (1955) Geology of the Deep River Coal Field North Carolina and the U.S. Army Corps of Engineers' Design Memorandum 3 Geology (1965) focus closest to the study area.

The study area is located in a geologically diverse and complex region (Figures 1 and 2). The dominant feature is the northeast-southwest trending Deep River and Wadesboro Triassic basins (Reinemund 1955:11-13; Stuckey and Conrad 1958:40-41). The Deep River basin is divided into three parts, the northernmost Durham Basin, the Colon cross structure (an anticline), and the Sanford Basin (a syncline) (Figure 2), and consists of a wedge-shaped series of Triassic sedimentary rocks (TRU on Figure 2) bounded on the east by the Jonesboro fault (Reinemund 1955:67-68). Triassic formations in the basin, from oldest to youngest include the Pekin, Cumnock, and Sanford. Crossbedded sandstones, siltstones, shales and conglomerates compose the Pekin Formation that ranges in width from one-half to four and one-half miles, and is 1800 feet thick (Reinemund 1955:28-31), but outcrops only occasionally. Conformably overlying the Pekin is the Cumnock Formation consisting of sandstone, siltstone, shale, coal, and conglomerate. It is the thinnest bed in the Triassic sequence, being only 750-800 feet thick (Reinemund 1955:31-35). The Sanford is the most well exposed Triassic Formation, consisting of claystone, conglomerate, sandstone, and arkosic sandstone ranging in thickness from 3,500 to 4,000 feet (Reinemund 1955:35-38).

Underlying the Deep River Basin and outcropping along its western edge is the Carolina Slate Belt (MVS, FVS on Figure 2), a Precambrian or Lower Paleozoic series of metavolcanic strata (Figure 2). The Slate Belt runs from Georgia, through the Carolinas, to Virginia and includes a diverse series of argillites, tuffs, and rhyolites. On the geologic map of the state (Figure 2) the Slate Belt rocks are divided into felsic or light colored volcanics and mafic or dark colored volcanic rocks. Specialized studies of portions of the Carolina Slate Belt are available (Butler and Howell 1976; Conley 1962; Conley and Bain 1965; Fodor, Stoddard and Burt 1981); however, these were all conducted south and/or west of the immediate project area, with the exception of the Corps of Engineers' (1965) Design Memorandum 3. The Slate Belt is composed of five formations; from old to youngest these include the Uwharrie, Efland, Tillery, McManus, and Yadkin. The basal Uwharrie formation consists of:

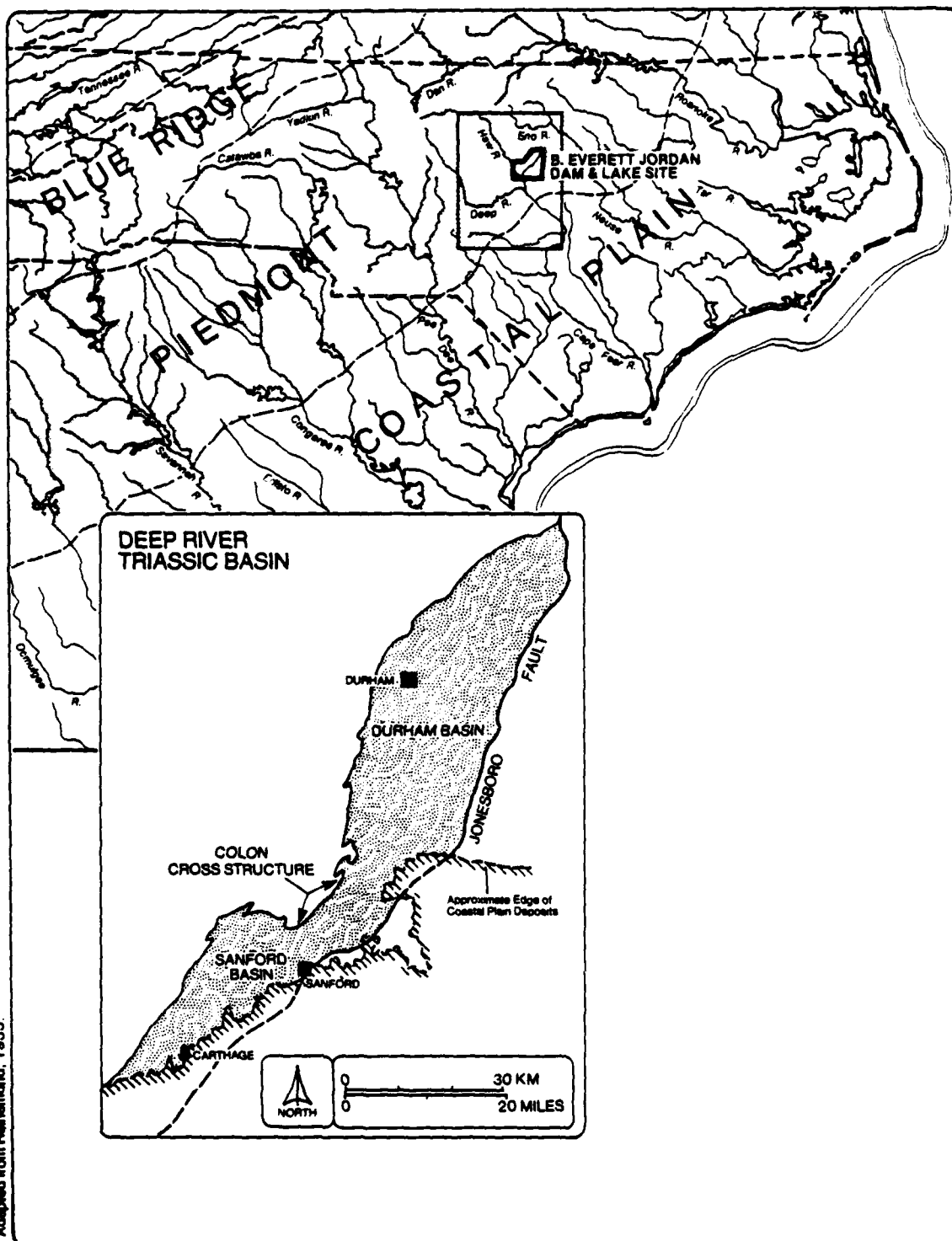
Felsic-lithic tuff with interbeds of crystal tuff and welded flow tuff. The lithic fragments consist of red and gray rhyolites containing flow banding, light-gray felsite, felsic-porphyrries, crystal tuffs, and rare mafic porphyries and crystal tuffs (Conley and Bain 1965:122).

The fine grained groundmass of these tuffs makes exact identification difficult (Conley and Bain 1965:122; Randazzo 1972:5) although quartz, albite, sericite, muscovite and minor amounts of other minerals are present. Phenocrysts are generally quartz and albite. The fine texture and chemical composition of the tuffs impart the qualities preferred by flint knappers, thus making this a preferred stone. Impure chert and argillite, other favored knapping materials, also occur in the Uwharrie Formation for the manufacture of chipped stone tools. More diversity is apparent in the Efland Formation which includes chlorite rich greenstones, conglomerates, gray-wackes, crystal tuffs, argillites, and phyllites (Conley and Bain 1965:124-125). Graded, laminated argillites ranging in color from bluish-gray to brown and orange when weathered, form the Tillery Formation (Randazzo 1972:8-10); occasional lenses of sandstone, chert and crystal tuff are present. The overlying McManus Formation is dominated by nonlaminated, tuffaceous argillite which is a fine grained, mafic rock with larger crystals of quartz and feldspar. Ancillary strata include laminated argillites, sandstones, and devitrified lithic crystal tuff. The final strata in the sequence make up the Yadkin Formation which is composed of graywacke, a sandstone developed from detrital materials. Laminated and nonlaminated argillites are also found in this formation.

Rock descriptions (U.S. Army Engineer District 1965:11-5) from cores drilled prior to construction are representative of the Carolina Slate Belt and include fine grained metavolcanics that could be worked by prehistoric peoples. Porphyritic metadacite is composed of a fine-grained, siliceous bedrock with quartz and plagioclase phenocrysts. A greenish-gray fine grained metafelsite is composed of a groundmass of plagioclase and pyroxene. These rocks occur at varying depths in the area depending on topographic setting (U.S. Army Engineer District 1965:Plates 3, 4, 5, 7), and may outcrop in places.

Besides the Triassic Basin's other structural features, faults (Figure 3) are found in the area. Larson (in Claggett and Cable 1982:147-148, Figures 6.1 and 6.2) using Reinemund's (1955) structural analysis near Moncure, south of the Jordan project area, as a basis interpreted aerial photographs and traced fault systems.

Adapted from Reinhard, 1955.



CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

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FIGURE 1
PHYSIOGRAPHIC
PROVINCES
GEOLOGIC FORMATIONS IN
THE PROJECT VICINITY

FIGURE 2
GENERALIZED BEDROCK GEOLOGY OF THE
B. EVERETT JORDAN DAM AND LAKE
LEGEND

Igneous and Metamorphic Bedrock

GR Granite

Massive and weakly foliated, even grained to porphyritic granitic rocks

Metavolcanic Bedrock

MVS Mafic Volcanics

Chiefly basic tuffs, breccias and flows in part of sedimentary origin; also felsic fragmented and flow material and lenses of bedded slate.

FVS Felsic Volcanics

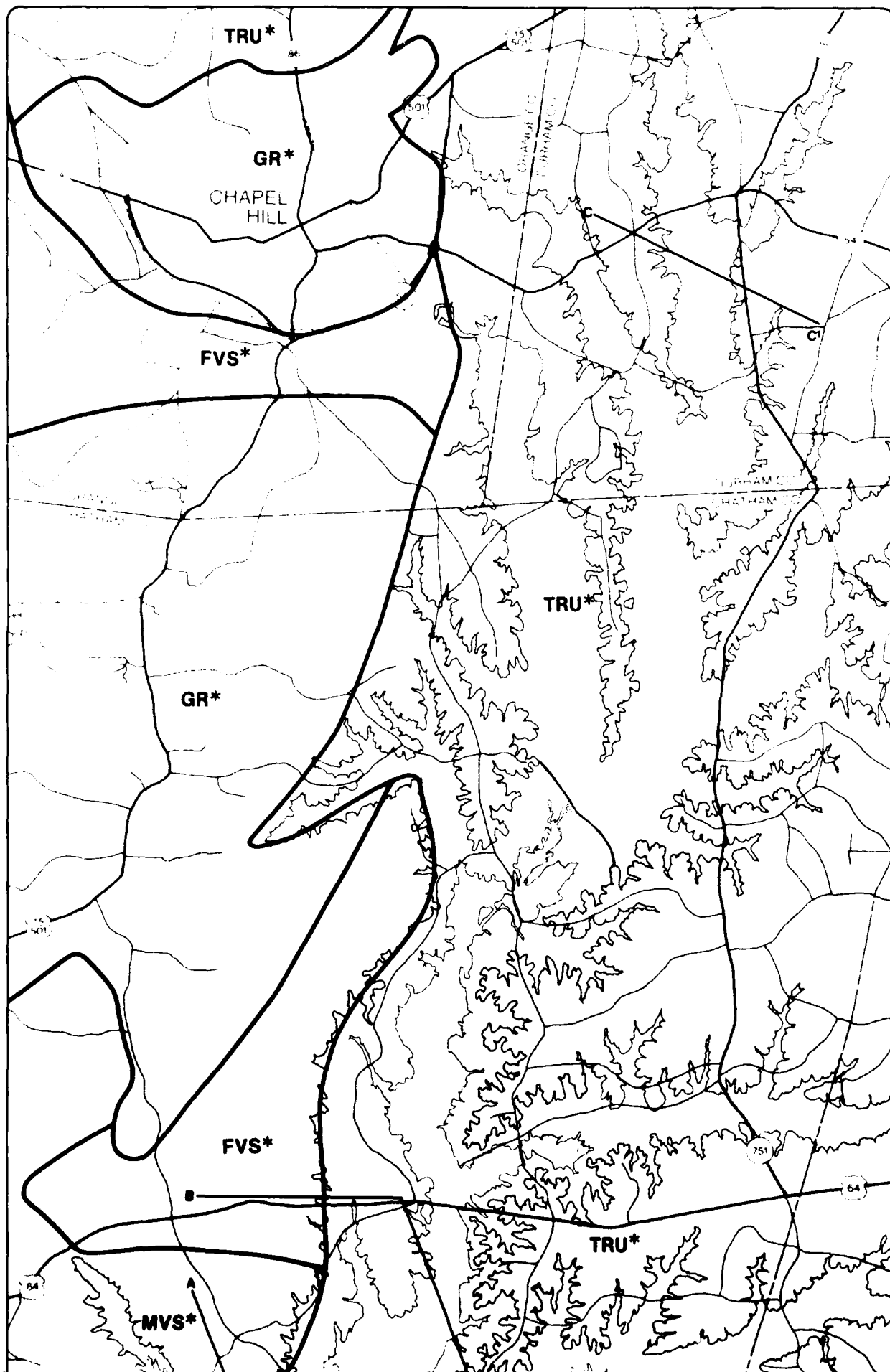
Chiefly acid tuffs, breccias and flows in part of sedimentary origin; also mafic fragmentals and flow material and lenses of bedded slate; along eastern edge of Piedmont lenses of gneiss, schist, and phyllite.

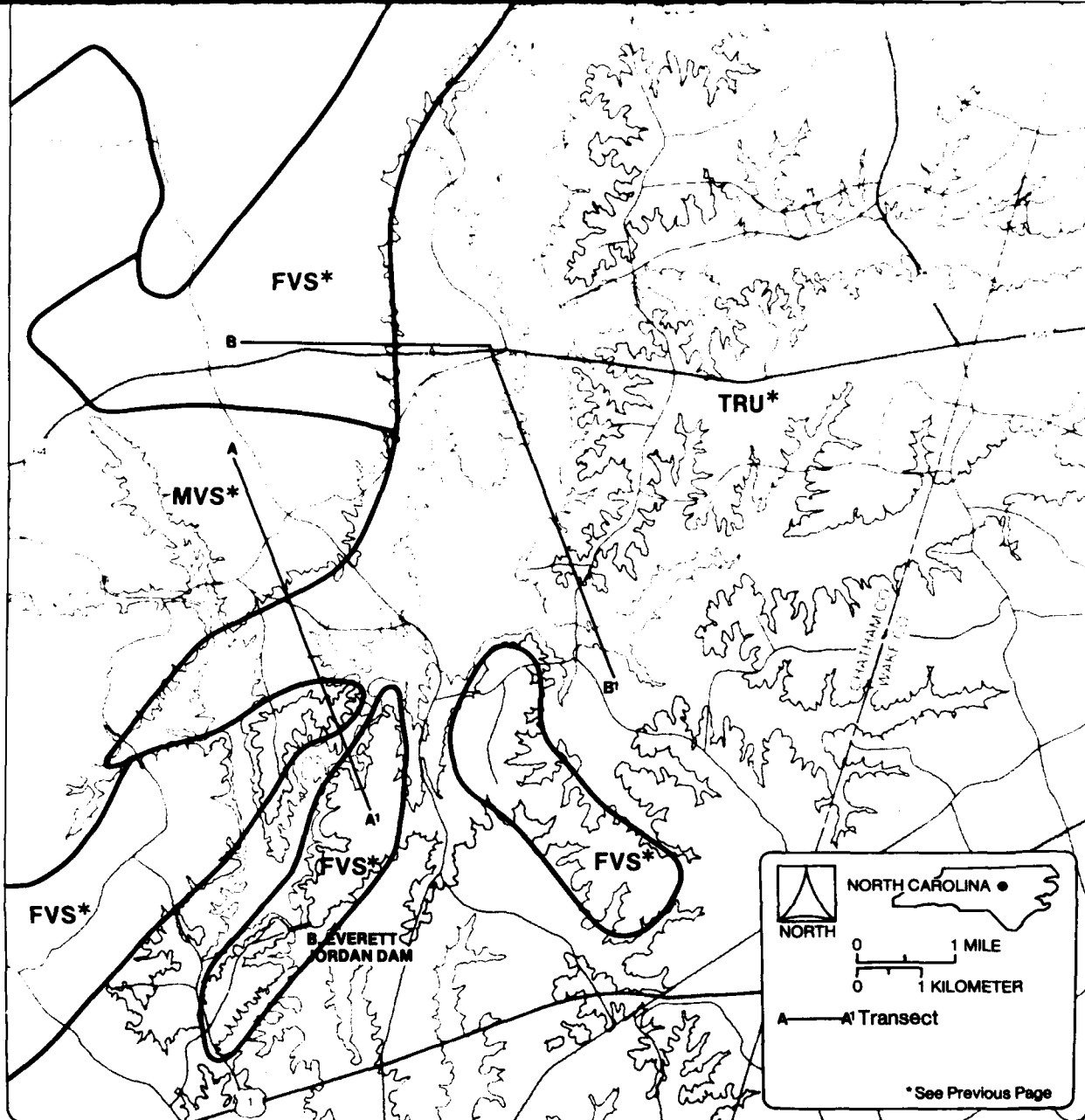
Sedimentary Bedrock

TRU Undifferentiated

Red, brown or purple claystone, siltstone, sandstone and conglomerate; also gray and black claystone, shale and fine-grained sandstone.

Information obtained from the Geologic Map of North Carolina Department of Conservation and Development.





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FIGURE 2
GENERALIZED
BEDROCK GEOLOGY

2

Support for Larson's interpretation is found in the Corps of Engineers' Design Memorandum (1965: Plates 1 and 2) which illustrates both the Indian Creek and Deep River faults in the project area. Major faults in the region are longitudinal faults, having downthrown sides to the northwest with younger, smaller cross faults cut by dikes (Reinemund 1955:68). Both the Indian Creek and Deep River faults cross the Triassic Basin, resulting in differential erosion of the Triassic and more resistant Paleozoic strata.

Granite (gr on Figure 2) of the same age as the Slate Belt outcrops in the project area. These gray and pink granites are equi-granular and of coarse to medium texture, exhibiting no evidence of metamorphism (Stuckey and Conrad 1958:20-21). Mineral composition includes quartz, orthoclase, plagioclase, and biotite with some accessory minerals.

GEOMORPHOLOGY OF THE STUDY AREA

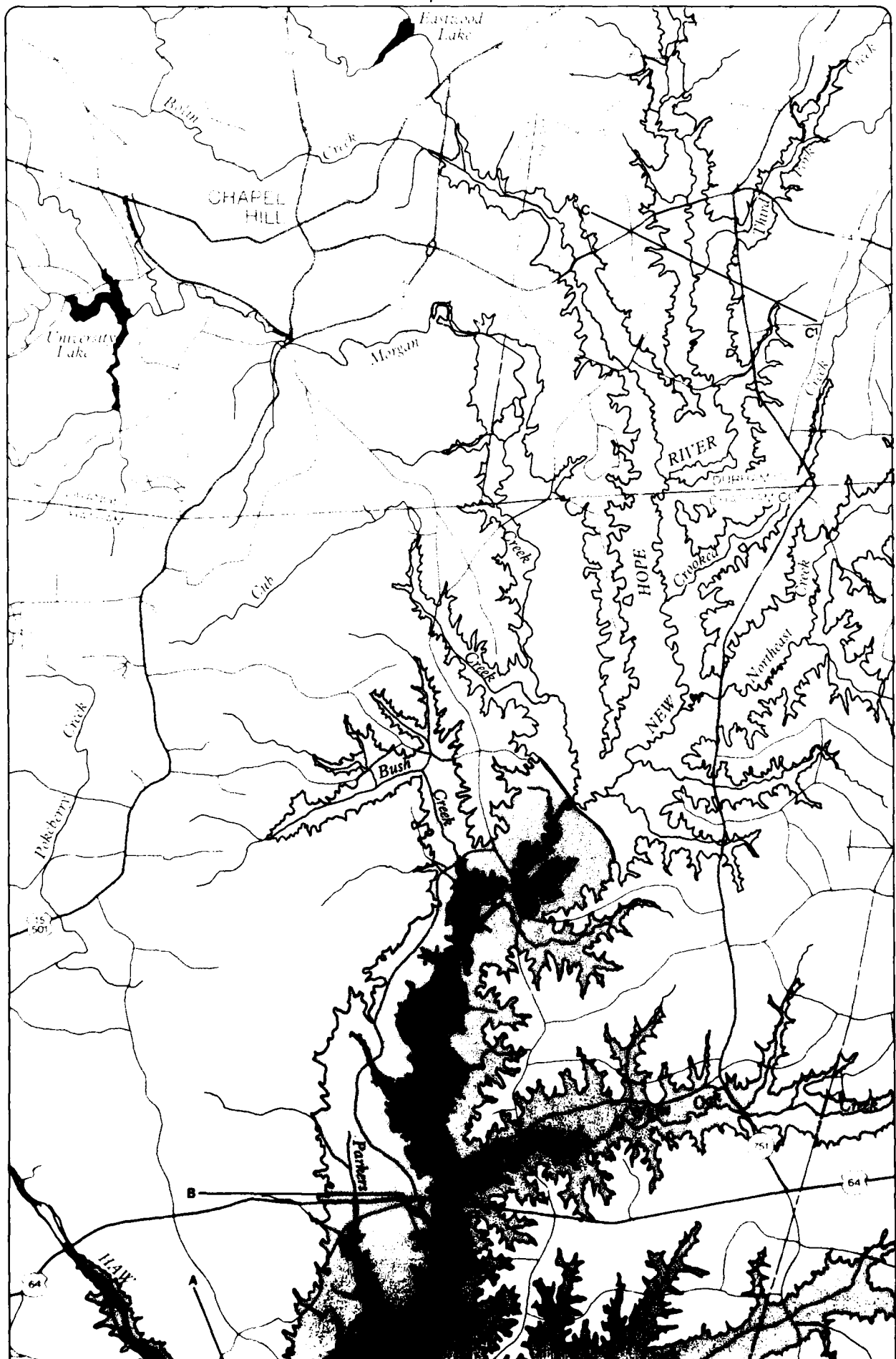
A series of four alluvial terraces were mapped along the Deep and Haw Rivers near Moncure, North Carolina (Reinemund 1955). These Pleistocene terraces were believed to represent four separate valley fills, resulting from the aggradation of the main and tributary river valleys. The periods of aggradation and incision were associated with fluctuations in sea level during episodes of glacial advances and retreats. When glaciers melted, sea levels rose, creating higher stream base levels. Conversely, when glaciers advanced, sea levels dropped, creating lower stream base levels. It was these episodic periods of higher stream base levels (valley alluviation) followed by times when base levels were reduced (stream incision) which resulted in the present day terrace sequence.

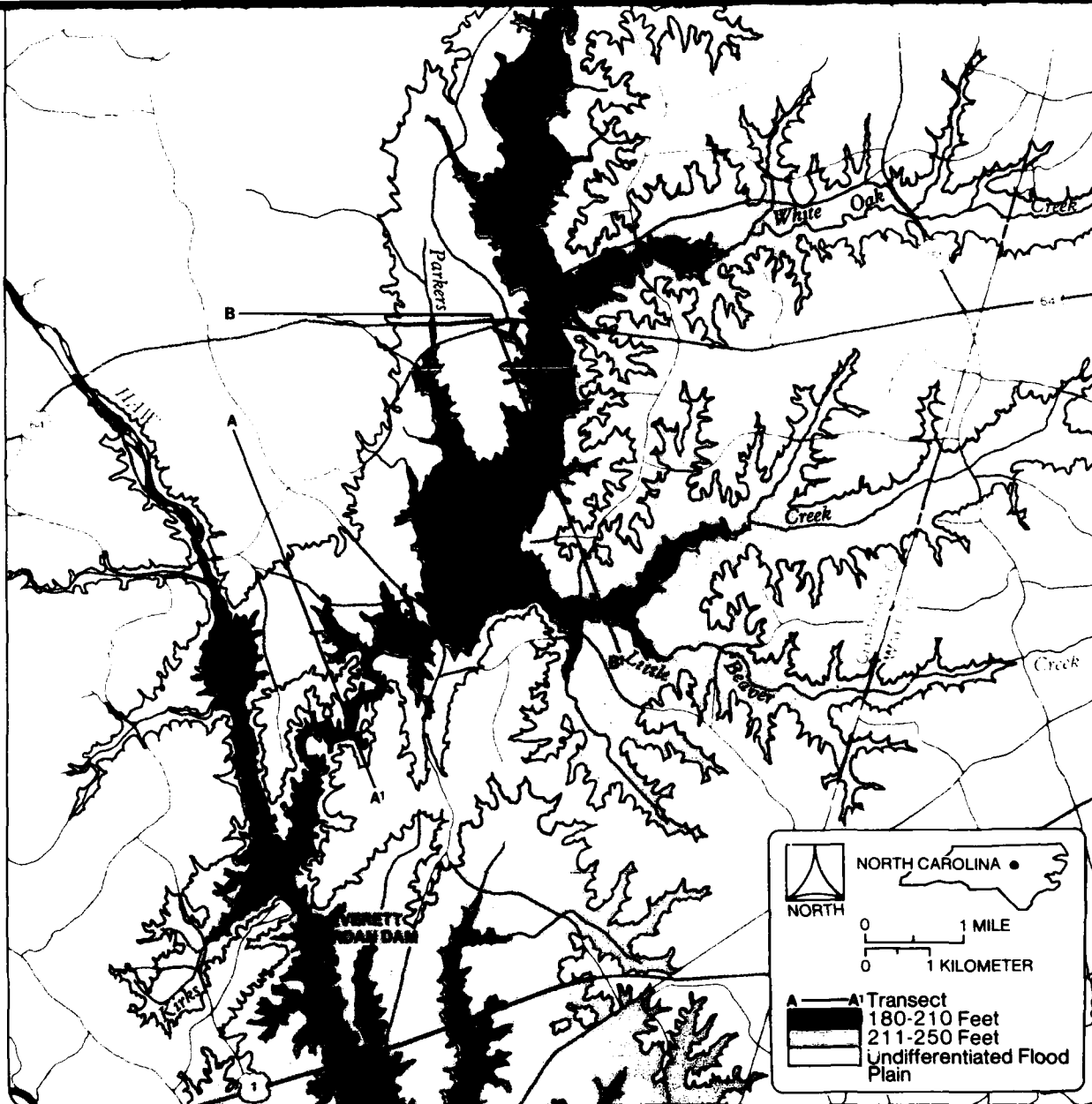
Concomitant with the archeological investigations at 31Ch8 and 31Ch-29, geomorphological research was conducted for the purpose of deriving information on the subsurface geology of the stream valley and to "evaluate the potential of buried strata in terms of age and human occupation" (Larson in Claggett and Cable 1982:154). To accomplish these goals a series of eight backhoe trenches were excavated along an east-west transect traversing the floodplain. A brief description (abstracted from Larson in Claggett and Cable 1982) of each backhoe trench is presented below.

Test Trench 1 was located on a high alluvial terrace (T₃) 110 meters ASL. Soil stratigraphy at this location included a brownish-yellow medium to coarse grained sand matrix to a depth of 40 centimeters below surface. Below this stratum, the soil changed to a brownish-yellow, silty medium grained sand interbedded with thin dark red laminations. It is believed that this terrace represents the northernmost extension of Reinemund's Terrace 2 sequence.

Test Trench 2 produced a homogeneous soil profile described as 2 meters of brownish-yellow to reddish-brown clayey silt. Grain size analysis of this soil unit indicates ponding of the river valley similar to that noted by Reinemund's Terrace 1 sequence. Test Trenches 3 through 5 produced similar soil profiles as Test Trench 2 and are also interpreted as relating to an estuarine environment.

Test Trenches 6 and 7 were placed along the edge of a marshy tract near the T₂ terrace. The soil profiles in these two units reflect a modern

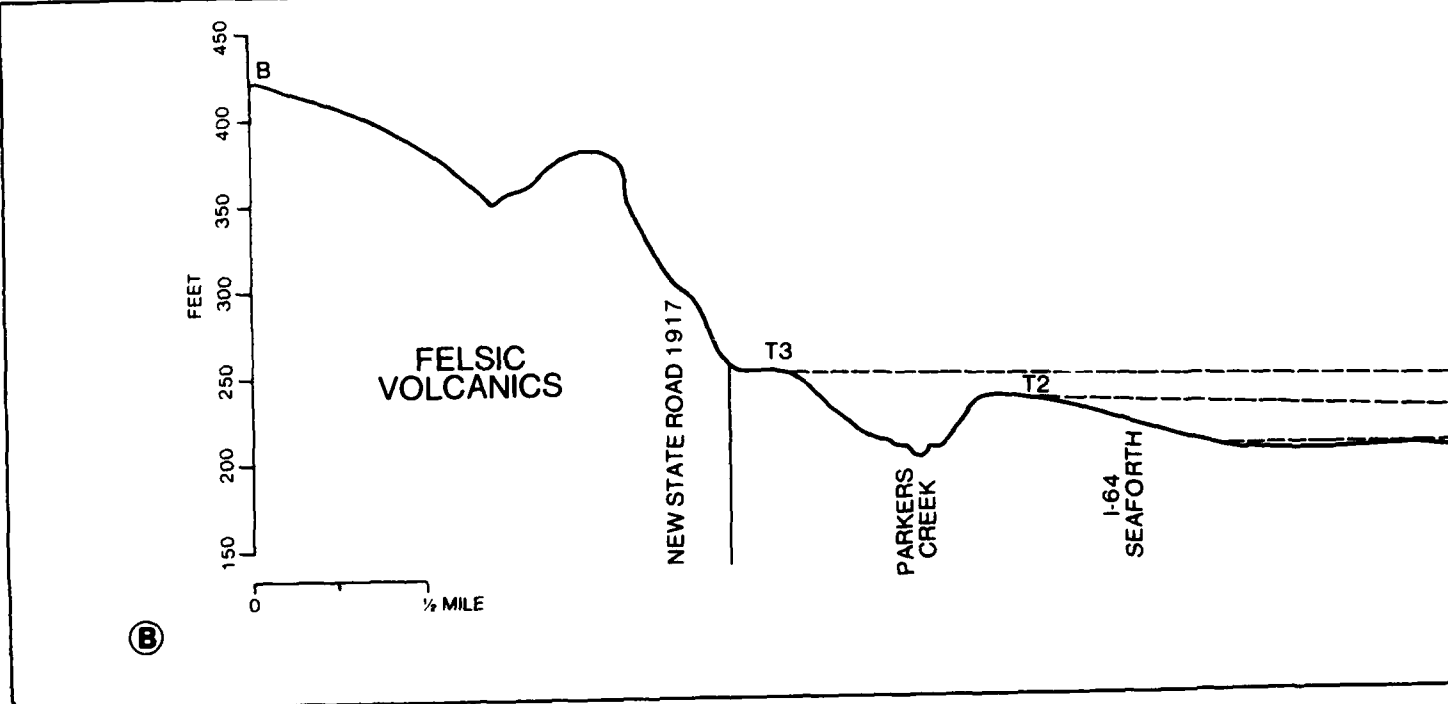
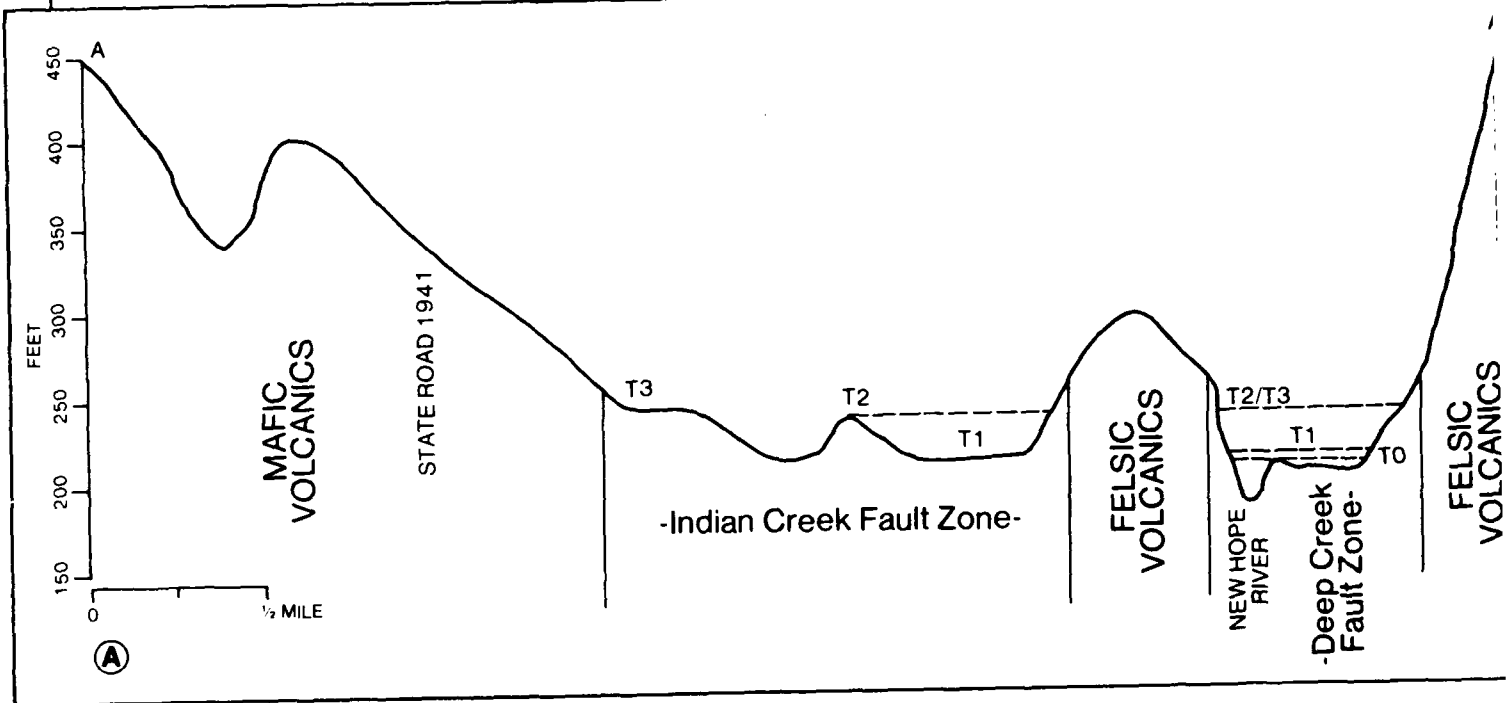




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2



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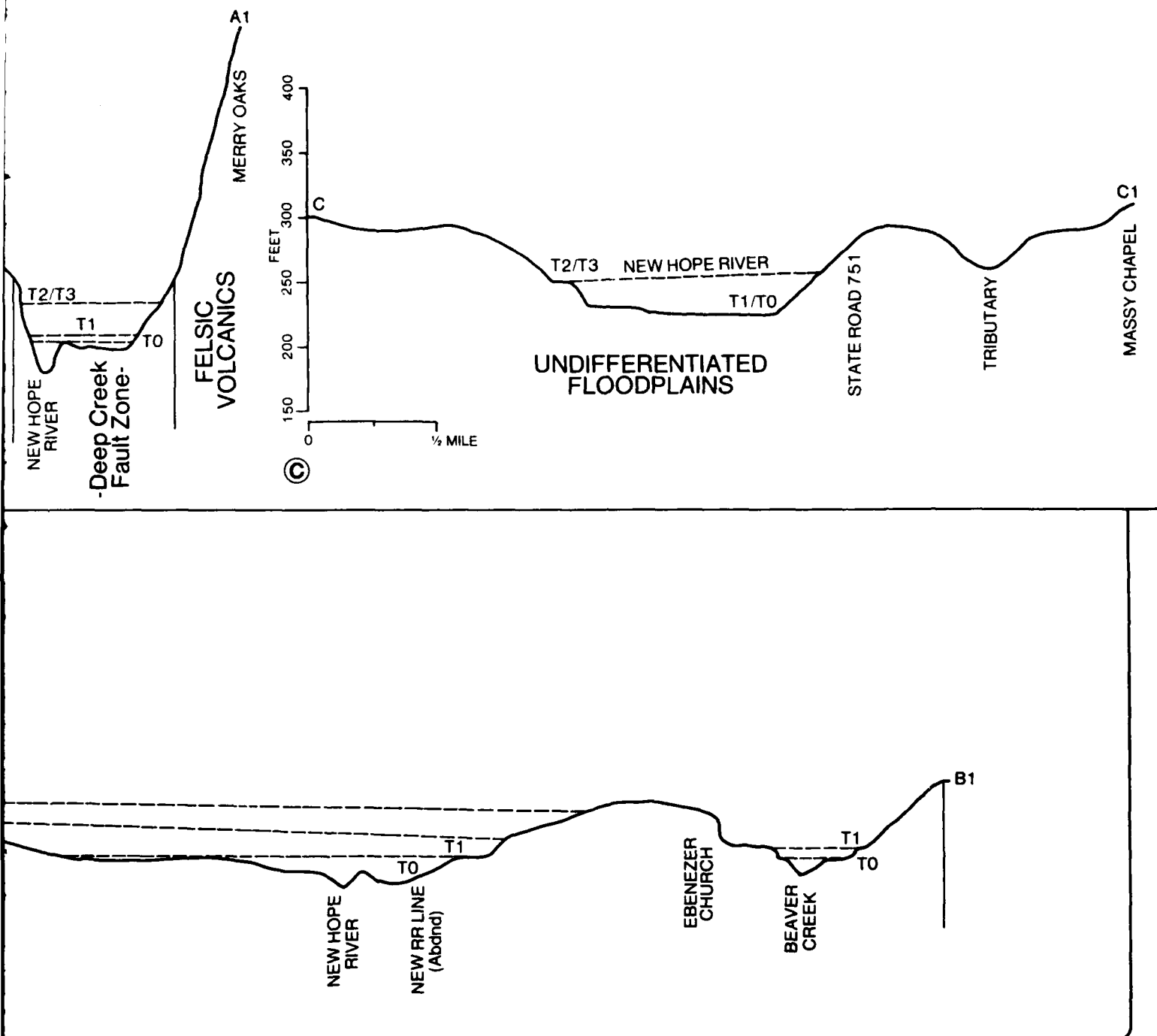


FIGURE 4
BEDROCK GEOLOGY &
GEOMORPHOLOGY TRANSECTS

2

To better illustrate the ridge systems and stream valley morphology, three topographic profiles (see Figure 4) were constructed across the New Hope Valley in areas thought to represent various important landform features. This analysis resulted in a clear differentiation between the floodplain morphology in the upper (Figure 4c) and lower (Figure 4a and 4b) reaches of the New Hope River drainage. Of particular interest is the bench-like landform which occurs regularly between the elevations of 235 and 250 feet above sea level in the lower reaches of the drainage. These elevations are consistent with those reported by Reinemund and Larson as representing the T₃ terrace of the Deep and Haw Rivers respectively. Unfortunately, insufficient data exist to determine the origin (sedimentary, aeolian, etc.) of this landform in the New Hope River Valley. However, given the regular occurrence and its location in the stream valley morphology, it is believed that this landform should be recognized as an important feature (closely identified with the floodplain sequence) of the New Hope River drainage.

Using the data obtained from the Haw (Larson in Claggett and Cable 1982) and the Deep (Reinemund 1955) rivers and the cross-sectional views of the New Hope River drainage (this report) a landform classification was developed using an elevational gradient. The landforms identified using this criterion include: 1) T₀ terrace below 195 feet ASL; 2) T₁ terrace 195-210 feet ASL; 3) T₂ terrace 210-235 feet ASL. As noted above, the T₃ terrace is located between 235 and 250 feet ASL. All lands located above the 250 foot contour are classified as uplands. The geographic distribution of these terraces is depicted in Figure 3. The area adjacent to the river and represented in dark blue, correlates with the T₀ and T₁ terrace system. The area in medium blue correlates with the T₂ and T₃ terrace system. The light blue areas in the upper reaches of the New Hope River represent the location of undifferentiated floodplains where the terrace system is poorly defined or altogether absent.

The identification of the T₃ terrace in the lower reach of the New Hope River has major importance in terms of subsistence-settlement pattern research. This landform has not been considered in previous archeological studies (see Smith 1965; McCormick 1970) beyond its inclusion into the upland ridge system category. Consequently, all inquiries into the nature of site location and hinterland exploitation strategies vis-a-vis bottomland vs upland diachrony has been confused by the inclusion of the T₃ terrace landform into the upland category when in fact it is related more closely to the bottomland sequence. This has lead previous researchers (Smith 1965; McCormick 1970; Autry 1976) to conclude that no clear association exists between such variables as site types, culture-historical periods and landforms in the Lake area. One of the principal goals of this study is to reassess archeological manifestations with regard to the landforms described in this section of the report.

SOILS

The soil descriptions presented below are taken from Journey, Miller and Bacon's (1937) Soil Survey of Chatham County, North Carolina. Although these data were compiled over 50 years ago, they represent one of the best sources of information pertaining to environmental conditions in the study area to date. Soils can be related to a number of environmental conditions (i.e., bedrock, topography, vegetation and localized drainage characteristics) important in structuring pre-historic and historic land use strategies.

Altavista fine sandy loam (Am) is light gray to yellow and 12 to 18 inches deep overlying yellow clay. The soil drains moderately well and is found "on second bottoms, or terraces, from alluvium deposited along many of the streams. The relief is nearly level or gently undulating, with a gradual slope toward the stream" (Jurney et al. 1937:30). Crops do fairly well on this soil.

Appling sandy loam (Ag) is a grayish-yellow or slightly brownish-yellow sandy loam, 7 to 9 inches thick (Jurney et al. 1937:24). This soil is underlain to a depth of 12 to 15 inches by a brownish-yellow sandy clay. The subsoil is a brownish-yellow or reddish-yellow clay which extends to a depth of 24 to 30 inches. Approximately 60 percent of lands containing this soil type are farmed.

Cecil fine sandy loam (Cf) is a grayish-yellow or brownish-yellow fine sandy loam 8 to 10 inches thick (Jurney et al. 1937:19). This zone is underlain by yellowish-red or reddish-yellow fine sandy clay extending to a depth of 12 to 14 inches. Approximately 60 percent of lands containing this soil type are farmed.

Congaree silt loam (Cl) is a brown or light-brown silt loam 15 to 18 inches thick (Jurney et al. 1937:22), underlain by a yellowish-brown or light brown clay loam extending to a depth of 34 inches. This alluvial soil occurs in the bottoms and is subject to occasional flooding. Agricultural use of these lands is 70 percent.

Congaree fine sandy loam (Co) has a similar color as the Congaree silt loam (Jurney et al. 1937:23); however, this soil extends only to a depth of 10 to 12 inches. Underlying the sandy loam is a light brown clay loam which extends to a depth of 28 to 34 inches. This soil type occurs in narrow bands along the Haw and Cape Fear rivers and occupies stream positions slightly more elevated than the silt loam (Cl). Lands containing the sandy loam are well-drained with 70 percent being cultivated for agricultural purposes.

Davidson clay loam (Dl) hilly phase is a dark brownish-red to maroon smooth heavy clay that exceeds four feet in depth and overlies mafic crystalline bedrock. As the name implies, these soils are found exclusively on hills and slopes; consequently they are best suited to woodlands (Jurney et al. 1937:34).

Georgeville silt loam (Gl) is a grayish-yellow, brownish-yellow, or slightly reddish-yellow silt loam 6 to 8 inches deep (Jurney et al. 1937:15). The subsoil underlying this loam is red or light red silty clay approximately 40 to 45 inches thick. Erosion is active in areas of this soil type with only 35 percent of the lands being farmed.

Georgeville gravelly silt loam (Gm) is similar in color to the Georgeville silt loam but differs in the texture of the surface soil (Jurney et al. 1937:16). The Georgeville gravelly silt loam contains 15 to 30 percent smooth, rounded or broken platy pieces of slate and small angular quartz fragments. This soil is used more often than the silt loam for agricultural purposes with 40 percent of the lands being farmed.

Georgeville silty clay loam (Gc) is a reddish-brown, brownish-red, or light red silty clay loam 5 to 7 inches thick (Jurney et al. 1937:16). The subsoil ranges in depth from 35 to 40 inches and consists of brittle red clay. Thirty-five percent of lands occurring on this soil type are cultivated.

Georgeville gravelly silty clay loam (Gg) is very similar to the Georgeville silty clay loam except that rounded or broken fragments of slate and quartz exist in this soil type (Jurney et al. 1937:17). About 30 percent of lands containing this soil type are cultivated.

Georgeville stony silt loam (Gs) is very similar to Georgeville silt loam (Gl) except that this soil type contains large numbers of angular white quartz and slate rocks. The principal occurrence of this soil is on the steeper slopes of drainages, with infrequent occurrences on smoother ridges (Jurney et al. 1937:34). This soil type is poorly suited for agricultural purposes with only 5 percent of these lands used for farming.

The Goldstone gravelly silt loam (Go) is grayish-yellow to brown and 7 to 9 inches deep overlying a narrow band of heavy silt clay loam (Jurney et al. 1937:20). Slate fragments are numerous in the loam. The subsoil is a reddish- to yellowish-brown silty clay. The soil is well drained; however, since it occurs only on gradual to steep slopes and is subject to rapid erosion, it is not surprising that only 20 percent is farmed.

Granville fine sandy loam (Gf) is grayish- to brownish-yellow and 8 to 10 inches deep, overlying nearly three feet of yellow sandy clay (Jurney et al. 1937:28-29). Another clay rich substratum ranges from brownish-yellow to purple.

Formed under forest vegetation, these soils occur on Triassic sandstones (Kirby n.d.:15). The Granville silty loam (Gt) is well drained and lies on gently sloping areas of the uplands; thus, most of this soil is cultivated.

Herndon silt loam (Hs) is a layer 7 to 9 inches thick of grayish-yellow or yellowish-gray silt loam underlain by brownish-yellow silty clay loam (Jurney et al. 1937:28). The subsoil is reddish-brown or yellowish-brown silty clay. Only about 30 percent of these lands are farmed. Also included in the Herndon soil series is the Herndon silt loam, gravelly phase (Hs gravelly phase). This soil is the same as the silt loam except it contains a large quantity of brown slate and angular quartz fragments (Jurney et al. 1937:22). About 60 percent of these lands are farmed.

Iredell loam (Il) is a 6 to 8 inch layer of brown or grayish-brown loam (Jurney et al. 1937:32). Subsoil is brown or yellowish-brown clay extending in depth from 24 to 30 inches. Only about 20 percent of lands containing this soil type are used for farming.

The Orange silt loam (Ol) is moderately well drained and has formed on granitic and metavolcanic bedrock (Dunn 1977:40; Jurney et al. 1937:37). The A-horizon is pale- to grayish-yellow and 8 to 10 inches deep, overlying a yellow, silty clay horizon of the same thickness. The silt loam occurs on slopes and interstream flats and drainage is dependent upon topographic setting, so its use is quite variable, ranging from agricultural to forested areas.

Roanoke silt loam (Rk), alluvial in origin, "occupies flat poorly drained areas on second bottoms, or terraces" (Jurney et al. 1937:38). The light gray silt loam is 6 to 8 inches deep and overlies nearly three feet of yellow to brown clay. As a result of its poor drainage this soil is generally forested or in pasture.

The Wadesboro fine sandy loam (Wa) gravelly phase ranges from grayish- to brownish-yellow and is 7 to 9 inches deep, overlying more than two feet of brownish-red clay (Jurney et al. 1937:22). Quartz gravel ranging from one-half inch to two inches in diameter is common. The soil is cultivated and occurs on rolling hills.

Wehadkee silt loam (We) is a gray or grayish-brown silt loam, 6 to 8 inches thick (Jurney et al. 1937:36). A mottled gray, brownish-yellow, and brown silty clay subsoil underlies the topsoil and extends to a depth of 30 to 32 inches. This alluvial soil occupies the bottomlands along streams and is subject to frequent flooding. Due to its poor drainage characteristics this soil type is poorly suited for agricultural purposes with only 5 percent of the land being used for farming.

White Store sandy loam (Wl) consists of a layer of grayish-yellow or brownish-yellow sandy loam 8 to 10 inches thick (Jurney et al. 1937:30). Subsoil is a mottled brownish-yellow, yellow, bright red and gray clay and extends to a depth ranging from 34 to 40 inches. Approximately 80 percent of lands containing this soil type are used for agricultural purposes.

White Store fine sandy loam (Ws) is a 6 to 8 inch thick layer of grayish-yellow, pale yellow, or brownish-yellow fine sandy loam (Jurney et al. 1937:31). This layer is underlain by a yellow fine sandy clay from 3 to 5 inches thick. Subsoil consists of a brownish-yellow, yellow, bright red, and light gray clay extending to a depth of 28 to 34 inches. Soil texture is nonporous, accounting for only 35 percent of this soil type being used for agricultural purposes.

Wickham fine sandy loam (Wf) is a 12 to 15 inch thick yellowish-brown to light brown fine sandy loam (Jurney et al. 1937:22). A reddish-brown or yellowish-red clay subsoil extends to a depth of 30 to 34 inches. This soil is of alluvial origin and occupies the bottoms along the Deep and Cape Fear rivers. Wickham fine sandy loam is one of the most productive soils in the county with 90 percent of the lands containing this soil type being cultivated.

Undifferentiated alluvial soils (A) include mixed materials (both alluvial and colluvial in origin) which differ greatly in color, texture and structure and cannot presently be separated into different soil types (Jurney et al. 1937:36). These soils occur in narrow bands along the bottoms of streams and are frequently flooded. Due to poor drainage characteristics, lands containing this soil type are farmed infrequently.

VEGETATION

The B. Everett Jordan Dam and Lake are located in the Piedmont physiographic province which is characterized by rolling topography with well rounded hills and long, low ridges. Numerous environmental zones compose this province, creating the potential for a variety of vegetation and community structures. While broad regional overviews (e.g., Braun 1950; Kuchler 1964) of forest communities are available, of particular interest to the present study is Oosting's (1942) analysis of plant communities in the Duke Forest near Chapel Hill, North Carolina. Oosting identified two major plant communities which he was able to correlate with local landform conditions. Similar landforms are found in the B. Everett Jordan Dam and Lake area. Given the close proximity and geographical

similarity of the Duke Forest to the study area, much of the vegetation description presented will be abstracted from Oosting's (1942) study.

Upland Forest

Oosting (1942:90) identified three forest types associated with upland settings: (1) the White Oak type which represented an insignificant portion of the total upland forest composition and will not be discussed further; (2) the White Oak-Black Oak-Red Oak type (hereafter termed the White Oak type); and (3) the White Oak-Post Oak type (hereafter termed the Post Oak type).

Distinction between the White Oak and Post Oak forests was formed on the basis of local topographic and edaphic factors. The White Oak type is associated with areas of better exposure, moist ridgetops and saddles, and productive soils. Conversely, the Post Oak type occurs in areas of "inferior exposure, drier ridges or knolls, and apparently poorer soils" (Oosting 1942:90). Although many of the same tree species occur in both forest types, species composition varies in frequency and relative percents due to individual species adaptation to either mesic or xeric (drier) conditions. For example, while both white oak (Quercus alba) and post oak (Q. stellata) occur in both forest types, analysis of sample quadrats reveals differences in their contributions to the overall forest structure.

Sample quadrats analyzed in the White Oak forest type resulted in an average density of 1.2 Q. alba trees in the overstory as opposed to Q. stellata with an average density of .6. In contrast to these figures, quadrat data obtained from the Post Oak forest type resulted in an average density of Q. stella ($d=1126$) to much higher than Q. alba ($d=.28$). Composition of understory and canopy boreal species in both forests were derived by averaging densities computed from three sample quadrats recorded in each forest type (Table 1).

Bottomland Forest

In the bottomlands on the "stable talus slopes or abruptly rising banks above the moist floodplains" (Oosting 1942:105) a different forest type exists which Oosting identified as a postclimax community. The bottomland postclimax community has only four boreal species (Q. alba, Q. stellata, Carya carolinenseptentrionalis (southern shagbark hickory) and P. taeda) in common with the upland overstory forest types. Other boreal species constituting the overstory of the post-climax community include willow oak (Q. phellos), sweetgum (Liquidambar styraciflua), swamp red oak (Q. r. varpagodaefolia), blackgum (Nyssa sylvatica), shagbark hickory (Carya ovata), overcup oak (Q. lyrata), red maple (Acer rubrum), hard maple (A. floridanum), hackberry (Celtis occidentalis) and American elm (Ulmus americana). It should be noted that while 15 species are represented in this community, the willow oak, red gum, swamp red and white oak are the dominant species, accounting for nearly 66 percent of the total tree density.

TABLE 1
UPLAND VEGETATION AND AVERAGE DENSITY OF
TREE SPECIES IN THE DUKE FOREST

	Understory		Overstory	
	White Oak	Post Oak	White Oak	Post Oak
<u>Q. alba</u>	.66	1.33	1.20	.60
<u>Carya</u>	3.20	2.03	.86	.23
<u>Q. velutina</u>	.36	.1	0	0
<u>Q. stellata</u>	.03	1.0	.23	1.26
<u>Q. borealis</u> var. <u>maxima</u>	.10	.03	.03	.06
<u>Q. rubra</u>	.10	.10	.06	.02
<u>Q. coccinea</u>	.06	.20	.10	.10
<u>P. taeda</u>	.26	.03	.03	0
<u>O. arboreum</u>	3.90	1.03	0	0
<u>C. florida</u>	5.06	3.56	0	0
<u>N. sylvatica</u>	1.00	.76	.03	0
<u>A. rubrum</u>	.86	1.5	0	0
<u>J. virginiana</u>	1.20	4.1	0	0
<u>D. virginiana</u>	.03	.03	.03	0
<u>L. tulipifera</u>	.03	.03	0	0
<u>A. canadensis</u>	.03	0	0	0
<u>L. styraciflua</u>	.03	.43	0	0
<u>P. serotina</u>	.06	0	0	0
<u>L. decidua</u>	.06	0	0	0
<u>M. rubra</u>	.06	0	0	0
<u>P. echinata</u>	0	1.03	0	.3
<u>Q. marilandica</u>	0	.46	0	.03
<u>F. americana</u>	0	.40	0	0
<u>U. spp.</u>	0	.13	0	0
<u>C. canadensis</u>	0	.03	0	0
<u>C. virginica</u>	0	.03	0	0

(Adapted from Oosting 1942:93, Table 16)

Swamp Forest

Another bottomland community is the swamp forest which occurs along stream margins and undifferentiated floodplains of river headwaters. In contrast to the well-drained alluvial terraces which drain fairly quickly, the "poorly drained areas may retain standing water throughout much of the year" (Moore and Wood 1976:41). Tree species commonly found in the overstory of this forest type include swamp chestnut oak (Q. michauxii), overcup oak (Q. lyrata), willow oak (Q. phellos), swamp spanish oak (Q. falcata var. pagodaefolia), sweetgum (L. styraciflua), swamp red oak (Q. shumardi), hickory (Carya spp.) and elm (Ulmus spp.). The understory and shrub layer consists primarily of ironwood (C. caroliniana), hawthorn (Crataegus marshallii) and black haw (Viburnum prunifolium). Shrubs and vines include such species as Atamasco lily (Z. atamasco), jewel weed (L. capensis), clearweed (P. pumila), spring beauty (C. virginica), aster (A. vimineus), lizard's tail (S. cernuus), ditch stonecrop (P. sedoides), sedges (Carex spp.), Japanese honeysuckle (L. japonica) and poison ivy (R. radicans).

CLIMATIC AND ENVIRONMENTAL CHANGES DURING THE HOLOCENE

A major goal of paleoecological research in the southeastern United States has been the reconstruction of vegetation communities through time. As the glaciers advanced, species adapted to northern climates retreated southward. At the end of Wisconsin glaciation, species returned northward in response to more mesic and warmer conditions following deglaciation.

The task of studying species migrations is complex, requiring consideration of a number of interrelated factors. Summarizing some of the difficulties inherent in paleoecological research, Watts (1979:429) argues:

It is clear that migration of single species is an opportunistic response to changes in climate and environmental circumstances independent of other species. The task for paleoecologists is to identify the timing and speed of movement of each major species and the character of the ephemeral associations that arise as species meet and form communities during migration. Communities themselves were readily penetrated by immigrants and changed floristically and structurally.

In response to the question of how the forest structure has changed through time, numerous palynological studies (e.g., Frey 1951; Craig 1969; Watts 1971, 1975, and 1980 and Whitehead 1972, 1973) have been conducted in southeastern states ranging from northern Virginia to Florida. Due to the geographical separation of these paleoecological sites, they are viewed as a "staging post past which migrating species move at times and rates that are distinctive for each species" (Watts 1979:429). Using this approach, it is possible to monitor broad environmental shifts, as reflected by changes in vegetation, for the Late Glacial through the Holocene periods.

Inferred paleoecological changes for the project vicinity are presented below and are based on pollen cores taken from Singletary Lake, North Carolina, located near the Cape Fear River in Bladen County, and White Pond, located near

the fall line in South Carolina. These two sites are located closest to the Jordan project area and as such represent the best staging post from which inference on changing forest structure and composition can be obtained.

The Late Glacial (15,000 - 10,000 B.P.) appears to have been a period of transition from the boreal forest of the Full-Glacial (25,000 - 15,000 B.P.) to a northern hardwoods forest of beech (Fagus spp.), hophornbeam (Ostrya spp.), oak (Quercus sp.) and hickory (Carya spp.). Pollen sequences recovered from White Pond and Singletary Lake indicate a Fagus - Ostrya zone occurring between 12,810 and 9,550 B.P. (Watts 1980:197). Pines (Pinus spp.) declined dramatically during this period.

During the Post Glacial or Early Holocene period gradual changes were taking place. Boreal species such as Carya, Fagus, and Ostrya - Carpinus were being replaced by Quercus (oak), Liquidambar (sweetgum), and N. sylvatica (blackgum). Oaks dominated the forest canopy to approximately 7,000 B.P. After this time pines and oaks became dominant in the overstory, particularly where xeric conditions existed; and the forest structure took on an appearance similar to the forest type found in the southeast today (Watts 1980:194).

One additional factor should be discussed in relation to the contemporary forest structure, that is the impact of historic period agricultural and timbering practices. Both Oosting (1942) and Braun (1950) have observed that many of the oak-pine areas, if allowed to reach a mature forest stage, would revert to a forest type dominated by oaks and hickories. In fact, Braun (1950:259) explains that:

except on poorer soils and in drier sites, pines are more or less temporary and are ultimately replaced by deciduous species . . . On this basis, the region under consideration might well be termed the "Eastern Oak-Hickory Forest."

Added support for Braun's conclusion is given by Oosting (1942:111) in his discussion of the extent of the post oak-blackjack oak forest distribution and its association with poor soil conditions or areas representative of extreme erosion. He notes that given time, the post oaks and blackjack oaks would be replaced by an oak-hickory community.

CLIMATE

The study area lies within the humid subtropical climate region (Clay et al. 1975). This region is located between 20 and 40 degrees latitude and is characterized by short, mild winters, long, hot, humid summers, and mild transitional seasons. Temperature variation is seasonal with monthly averages ranging from 43°F in January to 79°F in July. In the winter, the mean minimum temperature ranges from 28-32°F, while the mean maximum temperature climbs to 50-54°F. In contrast, the summer months have a mean maximum temperature of 92°F and a mean minimum temperature of 68°F. The average date of the last frost for the study area falls between April 11 and April 21 with the average length of the frost-free season lasting between 190 to 210 days.

In the North Carolina Piedmont, the annual precipitation (44-48 inches) is seasonally uniform with no pronounced wet and dry seasons. However, average precipitation totals indicate that the most rainfall occurs during the summer months with the least amount coming in the months of October or November.

FAUNA

Shelford (1974:59-119) provides one of the best general descriptions of the naturally occurring fauna and their associated habitats for the southeastern United States. Within the regional classification scheme he assigns the North Carolina Piedmont sector within the oak-hickory zone of the Southern Temperate Forest Biome. The dominant species which comprise this biome are labelled as the post oak-turkey-hickory faciation (Shelford 1974:23, 57, 59-60). It should be noted that historic land use patterns have had a major impact on the native faunal population to the extent that many indigenous animal species have been extirpated from the region. In light of this fact, Lawson's 1709 narrative of his travels in North Carolina provides a useful commentary on the role indigenous animal species played in frontier life.

Of particular interest are the large economically important game species mentioned by Lawson. Animals included in this category include bison (Bison bison), bear (Ursus americanus), elk (Cervus canadensis), and deer (Odocoileus virginianus).

There is historic documentation on the occurrence of bison south (Mills 1972; Logan 1859) and north (Lawson 1967) of the present study area. Mills has noted that several men with dogs could kill 10 to 20 bison a day (1972:608). Additional information concerning aboriginal exploitation of bison is recounted in Lawson. He noted that the Indians not only consumed the meat but spun the hair into garters, girdles, sashes and the like (1967:121). Skins and presumably the meat were butchered into quarters for ease of transportation when bison were killed away from the village.

Bear, another frequently occurring and heavily exploited animal resource, was considered a delicacy by the aboriginals. Lawson described the taste of bear flesh as "very good, and nourishing, and not inferior to the best pork . . . (1967:121). Bear fat was melted down and used to fry other foods such as fish. Also, bear grease was smeared over the body as a preventive measure against such insects as mosquitoes and ticks (Brickell 1968:163, 168).

Another beneficial animal resource was the elk. These animals are reported to have been as large as 17 hands high with their horns alone weighing 12 to 14 pounds (Bricknell 1968:109). Favorite habitats of these animals were the savannahs near the mountains and headwaters of major drainages. At various times elk could be seen grazing on the same range as bison (Lawson 1967:129).

Other economically useful species included raccoon (Procyon lotor), beaver (Castor canadensis), muskrat (Ondatra zibethicus), weasel (Mustela erminea), gray squirrel (Sciurus niger), fox squirrel (Urocyon cinereoargenteus), eastern chipmunk (Tamias striatus) and opossum (Didelphis marsupialis). Notable avian species included turkey (Meleagris gallopavo) and the passenger pigeon (Ectophistes migratorius). Two aquatic species of importance are the American

shad (Alosa sapidissima) and sturgeon (Acipenser spp.), both of which swam up the major rivers to spawn during the spring and early summer.

CHAPTER III

ARCHEOLOGICAL AND HISTORICAL BACKGROUND

This chapter provides the background for understanding the major temporal and cultural periods that occurred in the project area over the past 12,000 years. Several excellent summaries of the local culture-historical sequence (Figure 5) are available (see Coe 1964; Claggett and Cable 1982; Goodyear 1979) and it is not the intent of this chapter to repeat the references cited above. Instead this chapter will serve to briefly identify and describe aspects of each period's development in relation to such factors as changing environments, subsistence-settlement strategies and levels of technological organization. Also presented in this chapter is a discussion on the architectural techniques and styles of the Historic period.

CULTURE-HISTORICAL SUMMARY

Paleo-Indian Period (11,500-10,000 B.P.)

Traditionally, the Paleo-Indian period has been interpreted as the initial penetration and settlement of the New World (cf. Funk 1978; Haynes 1971) by small groups of individuals who traveled across the Bearing Straits during the late Pleistocene-Early Holocene interface. Group composition was small in number and believed to be predicated along kinship lines (Fitting 1965).

It is generally accepted that these groups were highly mobile big-game hunters who, in the western United States, based their subsistence system on procurement of megafauna (Wormington 1957; Judge 1973; Wilmsen 1974; Frison 1978). However, the economy of the Paleo-Indian in the eastern United States is not so well understood. Excavations conducted on Paleo-Indian sites in the northeast (Fitting, DeVisscher and Wahla 1966; Funk, Fisher and Reilly 1970; Adovasio et al. 1978; Bvers 1962; Gardner 1974; McNett et al. 1977) indicate a subsistence pattern divergent from the western states. Animal species found on Paleo-Indian sites in the east include a wider range of game, such as caribou and white-tailed deer (Fitting et al. 1966; Funk et al. 1970) and fish (McNett et al. 1977). Other researchers argue that the first inhabitants of North America may have gathered wild plant food and foraged small game when necessary (Ritchie 1956, 1957:7). However, to date there has been no evidence recovered to support this contention.

The economic pattern of the eastern Paleo-Indian indicates a reliance upon more modern animal species than the western early man groups. This conforms with paleoenvironmental and paleoecological reconstructions of the eastern United States (see Chapter II) where deciduous forests have been established since the Early Holocene. Environmental reconstruction based upon interpretation of a pollen core from White Pond, a site along the fall line near Elgin, South Carolina, clearly demonstrates the ecological parameters to which Paleo-Indians adapted:

... if Paleo-Indian hunters were present before 13,000 years ago they were living in a dry, windy boreal-continental climate with northern conifers, prairies and active dunes. After 12,800 a rich closed deciduous forest covered the landscape with quite different opportunities for game, food plants and shelter. After 9500 the climate was dry and hot, but rather similar to the present, and essentially like the present after 6000 (Watts n.d.)

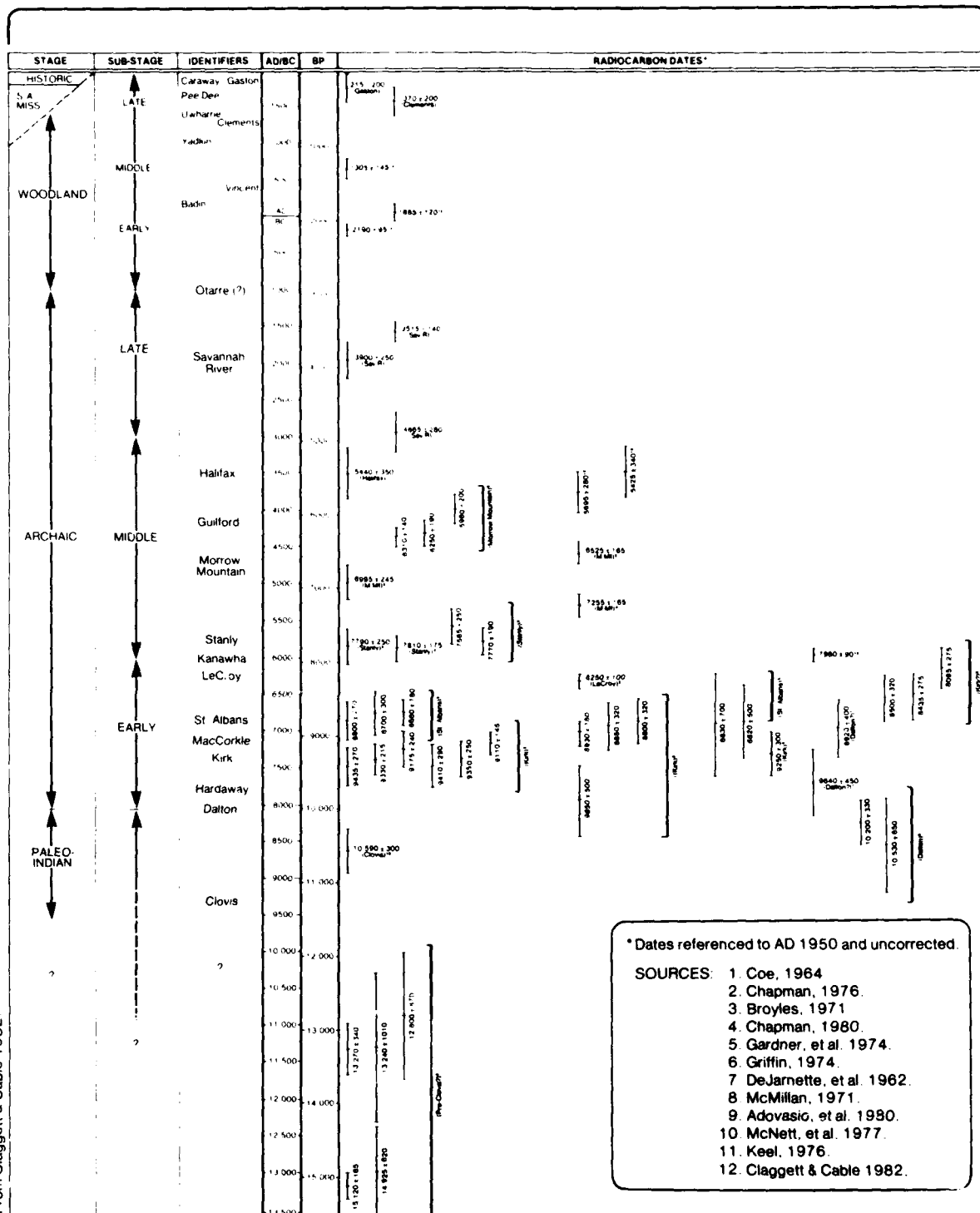
Identification of Paleo-Indian occupations is made almost exclusively on the presence of fluted lanceolate projectile points. Other artifacts in the Paleo-Indian tool assemblage include biface knives, biface preforms, end scrapers, side scrapers, flake knives and other unifaces (Funk 1978:17). Given the preponderance of bifacial tool forms in the tool kit, arguments concerning Paleo-Indian economy as a hunting oriented society seem justifiable.

Early Archaic Period (10,000-8000 B.P.)

While Paleo-Indian occupations are usually identified on the basis of a single tool form (fluted lanceolate projectile points), the Early Archaic period demonstrates a much greater diversity in temporally sensitive artifact styles. Excavation of numerous Early Archaic sites (e.g., Coe 1964; Broyles 1966, 1971; Goodyear 1974; Chapman 1977; Claggett and Cable 1982) has produced a temporal ordering of projectile point styles into four distinct horizons: 1) Dalton (ca. 10,000-9000 B.P.); 2) Big Sandy (ca. 10,000 B.P. - ?); 3) Kirk (ca. 9500-8000 B.P.) and 4) Bifurcate (ca. 8700-8000 B.P.). Analysis of morphological trends from the earliest Dalton projectile points through the Bifurcate tradition demonstrates an evolutionary development of haft element design. Claggett (in Claggett and Cable 1982) summarizes this phenomenon:

Lanceolate, basally thinned or fluted Dalton variants closely resemble the fluted Paleo-Indian Clovis variants. Successive horizons of Big Sandy and Kirk exhibit side and corner-notching, more trianguloid blade forms and reductions in the frequency of grinding of haft elements. The Bifurcate variants of MacCorkle, St. Albans, Le Croy and Kanawha types are further transitional toward the stemmed point forms characteristic of Middle Archaic assemblages . . .

The observed changes in Early Archaic haft-element design correspond with a change in southeastern climatic conditions. Replacing the cool-moist conditions during Paleo-Indian times, the climate became warmer and dryer. The obvious effect of this change would manifest itself in the forest composition and structure. Changes in the forest composition would reflect an increase in the numbers of plants adapted to xeric conditions and a concomitant decrease in the number of mesic adapted plants. The forest structure would also reflect changes in the overall distribution of plant species. The xeric plant communities would spread from locations favoring xeric edaphic conditions creating smaller and smaller patches of mesic adapted plants. The combination of reduced numbers of mesic plants and their heterogeneous geographical distribution must have had an effect on the subsistence-settlement strategies of aboriginal populations exploiting these



environments. In partial response to the new environmental parameters, human groups began to experiment with haft-element designs to effectively exploit a more diverse and patchy resource base. Following this line of reasoning, it is possible to postulate that the Paleo-Indian and Dalton projectile points were best suited for the exploitation of cool-moist homogeneous environments, while the bifurcate and stemmed projectile points were designed for use in warm-dry heterogeneous environments. A more detailed discussion of settlement-subsistence strategies and technological organizations as they relate to environmental conditions is presented in the research design (Chapter IV).

Other tools in the assemblage include a variety of bifaces, blades, end scrapers, side scrapers, oval scrapers, pointed scrapers, drills and hammerstones (cf. Coe 1964). Although strong technological affinities exist between Dalton and Paleo-Indian tool assemblages (Goodyear 1979), the similarities decrease steadily through the subsequent Kirk and Bifurcate horizons, indicating a steady movement away from those earlier economies.

The excavation of Early Archaic sites has produced evidence indicating a diversified economy based on game species such as white-tailed deer, cottontail, squirrel, raccoon, beaver, groundhog, fish, turtles, mussels and a variety of waterfowl (McMillan 1971; Parmalee et al. 1976; Weigel et al. 1974). As early as the Dalton horizon, people had begun to exploit regions away from the main river drainages in search of food and shelter (Goodyear 1979). Chapman (1977) working in the Little Tennessee River Valley has recovered evidence of nut gathering activities associated with the Kirk and Bifurcate horizons. The expanding economy of the Early Archaic peoples is interpreted as reflecting a combination of changing resource structures and a population increase to the extent that a focal procurement strategy (see Cleland 1976) was replaced by a broad based or diffuse procurement strategy emphasizing the collection of a variety of foodstuffs.

Middle Archaic Period (8000-5000 B.P.)

Hallmarks of the four Middle Archaic phases include Stanly, Morrow Mountain Types I and II, Guilford and Halifax projectile points. The Stanly and Morrow Mountain phases, first identified by Coe (1964), represent a continuation of stemmed points that originated in the terminal Early Archaic. However, the developmental trend of stemmed projectile points is broken during the Guilford Phase. Guilford projectile points exhibit a lanceolate morphology with only a few specimens having any sign of shoulder or stem development (Coe 1964:43). It has been suggested that this projectile point morphology was introduced into the North Carolina region by migrating populations who were originally located in the western United States (Coe 1964). Interestingly, the spread of Guilford projectile point forms occurs at the same time Watts (n.d.) argues for the establishment of a modern day forest composition. It is possible that the Guilford morphology represents an adaptational response to the stabilization of the resource base rather than an introduction by migrating peoples. The final Middle Archaic Phase, first identified by South (1959) in North Carolina, is the Halifax Phase. The Halifax projectile point is thick, straight-based and shallowly side-notched. Generally it is manufactured from quartz or quartzite (Coe 1964:109-110) and is associated with similar hafted biface forms recovered from Archaic sites in the Mid-Atlantic region (Holland 1955, 1960; Miller 1962). Although these point styles are generally

found in northern regions, they are occasionally found in the North Carolina Piedmont.

Middle Archaic subsistence data obtained from midwestern sites indicate a "broad spectrum" economy based on such animal species as white-tailed deer, turkey, raccoon, numerous small mammals, and various bird species (Winters 1974). Also, Middle Archaic sites located in riparian environments have produced evidence suggestive of a heavy reliance on bivalve and univalve species of mollusc (Asch et al. 1972; Winters 1974; Parmalee et al. 1974). Other lines of evidence supporting a broad-based economy are the frequent occurrence of charred nut remains as well as plant processing tools including nutting stones, milling stones and pestles (Winters 1974).

Given the variety of environmental zones inhabited and the intensity with which they were exploited (measured by the depth and "richness" of middens) it has been proposed that Middle Archaic sites located in the Midwest reflect a settlement pattern much less mobile than the preceding periods (Caldwell 1958; Lewis and Lewis 1961). Additional evidence for this sedentary existence is provided by the archeology conducted in the Little Tennessee River Valley. Here the discovery of Early Archaic burials was rare; however, by Middle-Archaic times, prepared burials become more common, which is interpreted as representing a more sedentary lifestyle (Chapman 1977).

Unfortunately, the subsistence-settlement data for Middle Archaic sites located along the southeastern Atlantic Slope are much more scant. In this region, most of the information is derived from surface lithic scatters located primarily in the Piedmont and Appalachian Summit physiographic provinces. The ubiquitous distribution of Middle Archaic sites suggests, however, that a broad based or generalized economic system was adopted in these regions also.

Late Archaic Period (5000-2800 B.P.)

During the Late Archaic period, major changes occurred in the subsistence-settlement pattern. Subsistence information obtained from sites along the major river drainages and coast of South Carolina indicates extensive use of freshwater mussels and marine shellfish (Stoltman 1972). Farther north, subsistence data suggest the exploitation of anadromous fish, in addition to hunting and gathering of plant foods (Turnbaugh 1975). The importance of hunting and gathering activities in the Late Archaic cannot be overestimated. A review of the survey literature (House and Ballenger 1976; Goodyear et al. 1979; Taylor and Smith 1978; Keel 1976) pertaining to the Atlantic Slope region clearly demonstrates the frequency of Late Archaic materials in upland settings, some distance from major drainages. Traditionally, sites in these settings have been interpreted as reflecting hunting and gathering activities (House and Wogaman 1978). Claggett (in Claggett and Cable 1982) summarizes the general archeological consensus of the economy for this period:

By Late Archaic times . . . prehistoric subsistence patterns were attuned to ecologically diverse environments yielding seasonally abundant and highly predictable resources especially shellfish, anadromous fish species, nuts and game animals.

Researchers (Griffin 1967; Dragoo 1976; Kinsey 1972; Ward 1983; Custer 1978) argue that concomitant with the changes in the economy the Late Archaic period reflects seasonally concentrated populations with fairly restricted boundaries. An alternative hypothesis to the concept of restricted boundaries has been provided by Taylor and Smith (1978) who observed the similarity of projectile point forms from the coast to the Appalachian Summit region. They argue the possibility that the settlement system extended on a seasonal basis (at least in the Savannah River region) from the mountains to the coast (Taylor and Smith 1978:89).

The tool assemblage of the Late Archaic includes the Savannah River projectile point/knife, Otterstemmed point (Keel 1976) or Type 3 point (Bullen and Green 1970), stemmed scrapers, winged atlatl weights, steatite ceramics and netsinkers, chipped adzes or celts and cruciform drills (Turnbaugh 1975:54). Also in the Savannah River region, fiber tempered ceramics make their appearance during this time.

Early Woodland Period (2500-1500 B.P.)

The Early Woodland period is identified primarily on the basis of ceramic styles, i.e., fabric-impressed, cord-marked or check-stamped wares tempered with sand or grit (Griffin 1978), and the presence of large crude, triangular Badin or Roanoke projectile points (Coe 1964). Badin ceramics have been radio-carbon dated to approximately 2000 B.P., followed by Vincent ware at 1050 B.P. (Coe 1964:55, 119).

Caldwell (1958) in defining the "Middle Eastern Tradition" argues that fabric-impressed pottery occurs throughout much of the eastern North American interior paralleling the distribution of the Eastern deciduous forest. Subsistence data collected at the Kellogg site in northern Georgia produced evidence of intensive gathering of acorns, hickories and walnuts (Caldwell 1958:25-26), which suggests an economy based on harvesting and storage of wild plant foods commonly found in deciduous forest. Unfortunately, there have been no excavations of Early Woodland sites in the North Carolina Piedmont. However, the similarities in geographical distributions of Early Woodland and Late Archaic sites suggest a continuation of subsistence-settlement strategies developed during the terminal Archaic period.

Middle Woodland Period (1500-800 B.P.)

The identification of Middle Woodland sites in the North Carolina Piedmont is made on the basis of Yadkin pottery that continues to have cord-marked and fabric-impressed surface treatments; however, quartz replaces sand as the primary tempering agent (Coe 1964). The Yadkin triangular projectile point is much smaller than the preceding Badin points, which Coe (1964:119) argues as coinciding with the introduction of the bow and arrow.

To date little is known about the subsistence-settlement patterns of Middle Woodland populations in the North Carolina Piedmont. Given the close technological affinities between the Early Woodland and Middle Woodland tool assemblages the two periods may represent a time of cultural continuity in the region. Claggett (in Claggett and Cable 1982) argues that the "Piedmont Middle

Woodland may not exist; at best, it exists as a stylistic construct, as currently understood."

Late Woodland Period (800-500 B.P.)

The Late Woodland period subsistence-settlement pattern data suggest a continuation of the generalized Early and Middle Woodland economies (Coe 1964; Newkirk 1979; Barnett 1978; Ward 1983; Woodall 1976). Evidence for intensive food production, maize agriculture, is sparse with only one corncob recovered from site 31Dv4. However, indirect evidence for agriculture in the form of corncob impressed ceramics is apparent in the site collections. The technology identifiable with the Piedmont Late Woodland period includes the Uwharrie net-impressed ceramics and the small triangular Uwharrie projectile points (Coe 1964).

Late Prehistoric and Early Historic Aboriginal (500-300 B.P.)

Archeological research in North Carolina has resulted in the identification and geographical distribution of four major language stocks in the Atlantic Slope during this time period. These language groups include the Algonkian-speakers who lived along the coast and into Virginia (Binford 1964; Feest 1978), Iroquoian-speaking groups along the inner Coastal Plain westward to the fall line (Lawson 1967; Boyce 1978), Siouan-speakers in the Piedmont, and an intrusive Mississippian group, the Pee Dee (Coe 1964), who moved into the area of the Pee Dee River around the time of 500 B.P.

For unknown reasons, about A.D. 1650, the Mississippian group abandoned the Pee Dee River drainage and was replaced by the Caraway complex (Coe 1964) which combined ceramic and other cultural elements of both the Siouan and Southern Appalachian Lamar traditions (Coe 1964:124; see Claggett, in Claggett and Cable 1982). Ceramic styles identified with the Caraway complex include simple stamped, plain, net-impressed, corncob impressed and complicated stamped. Trade goods are also present in the form of glass beads, gunflints, iron axes, copper hawk bells and white clay trade pipes.

HISTORICAL BACKGROUND

The earliest published account of Euro-American contact in the Haw River valley was written by John Lawson. Late in 1700 Lawson left Charleston on a reconnaissance survey of the interior of Carolina. After 59 days of travel to the headwaters of the Santee, the Pee Dee, the Cape Fear and the Neuse rivers, he reached the North Carolina tidewater of Pamlico Sound, a journey which he chronicled as A New Voyage to Carolina; containing the exact description and natural history of that country; together with the present state thereof. And a Journal of a thousand miles travel'd through several nations of Indians. Giving a particular account of their customs and names; printed in London 1709 (Lawson 1709, 1967). On a February night in 1701 Lawson and his party "stripp'd, and with great difficulty, (by God's Assistance) got safe to the North-side of the famous Hau-River, ...which is one of the main Branches of Cape-Fair, there being rich Land enough to contain some Thousands of Families; for which Reason, I hope, in a short time, it will be planted (Lawson 1709, 1967:60). Lefler estimates that Lawson

crossed the Haw River near the present town of Swepsonville (Lawson 1709, 1967:xiv), about 25 miles upstream from the present B. Everett Jordan Lake.

Lawson reached the Haw River at its earliest phase of Euro-American westward expansion. At this time Indian trade was conducted by a few British adventurers who followed Indian trails seeking an exchange of alcohol and European trade goods for deerskins and furs. This exchange invariably disrupted the Native American environment and culture. Ten miles east of the Haw River crossing, Lawson reported that his party spotted "30 loaded Horses, coming on the Road, with four or five Men, on other Jades, driving them." Their leader, from Yorkshire, gave Lawson "Two Wheaten Biskets, a little Ammunition", and advice to avoid hostile tribes to the north (Lawson 1709, 1967:61). The next day Lawson was joined by "several other Indians, who intended to go to the English, and buy Rum"; the day after that, with a fine eye for ethnographic detail, Lawson reported other evidence of Indian cultural adaptation to Euro-American contact, "I saw among these (Indians), very long Arrows, headed with Pieces of Glass, which they had broken from Bottles. They had shap'd them neatly, like the Head of a Dart (Lawson 1709, 1967:63).

From the time that he left the tidewater Santee until he reached Pamlico Sound, Lawson encountered a trading party and evidence of Euro-American trade dependency, but not a single white habitation. His journal of exploration described a region around the Haw River that was "extraordinary Rich" with "good Timber especially of a Scaly-bark'd Oak," and with "Stone enough" in the riverbed to support the establishment of prosperous plantations (Lawson 1709, 1967:60). But with promotional optimism his account dismissed the potential for violence which attended Native American-Euro-American contact and delayed permanent frontier settlement. Though Lawson observed in his Journal "That no Place on the Continent of America, has seated an English Colony so free from Bloodshed as Carolina; all the others have been more damag'd and disturb'd by the Indians, than they have" (Lawson 1709, 1967:92-93), he himself was killed by the Tuscarora in 1711 while on an expedition up the Neuse, and pioneer farming along the Haw did not commence until the mid-1700s (Lefler and Powell 1973:68-69; Clay et al. 1975:15).

Harry Roy Merrens' excellent study in historical geography for colonial North Carolina showed that by 1730 settlement extended over most of the North Carolina Coastal Plain, with pioneer farmsteads roughly distributed to the east of a line between Cape Fear and the point where the Roanoke crossed into Virginia. At that time the colony contained about 5000 Welsh, French, German and Scotch-Irish inhabitants, 20,000 English, 6000 blacks - almost all of them slaves - and perhaps 1000 Indians (Merrens 1964:20-23). Merrens pointed out, as have other cultural geographers, that counties were the basic local components of colonial government, and that changes in county boundaries tended to reflect increases in population and the consequent need to provide newly defined units of political administration (Merrens 1964:27-30; Mitchell 1972). Accordingly, because settlement had not moved west of the Coastal Plain, the thirteen North Carolina counties created prior to 1740 contained no enclosed boundaries which extended into the Piedmont (Merrens 1964:28; Clay et al. 1975:7). This situation changed rapidly over the next 40 years as North Carolina's population doubled between 1730 and 1750 and more than doubled again by 1775 with a total of perhaps 200,000 inhabitants on the eve of the Revolution (Merrens 1964:55; Lefler and Newsome 1973:715). During those 45 years, 22 new counties were organized and 12 of them,

including Orange and Chatham, were located in the Piedmont (Merrens 1964:29; Clay et al. 1975:7).

In 1752 there was sufficient population in North Carolina's eastern Piedmont to warrant formation of Orange County, which originally comprised all of what would become Chatham, Caswell and Alamance counties, as well as portions of Guilford, Wake and Durham counties (Corbitt 1969:167-168). The number of taxables in Orange County had grown from 1100 in 1753 to 3700 by 1769 (Merrens 1964:69, 71) and steps were taken in 1771 to subdivide Orange by creating Guilford, Wake and Chatham counties (Corbitt 1969:167-168). Merrens' research suggests the following characterization of Orange County inhabitants around 1770: 30 to 40 percent were German or Scotch-Irish immigrants who reached north-central North Carolina by traveling the Great Wagon Road from Philadelphia west to Lancaster and York, southwest along the Shenandoah Valley in central Virginia, east through the Staunton River gap of the Blue Ridge and then south into North Carolina; perhaps 40 to 50 percent were English immigrants who moved south primarily from Virginia and in fewer numbers north up the Cape Fear; 10 percent of Orange County households in 1755 were taxed for their slaveholdings; most of the slaveholders were of English origin and none of them owned more than 10 slaves (Merrens 1964:Chapter V).

Stanley Wayne Trimble's important land use geography of the Piedmont categorizes Chatham County agriculture at the time of its formation in the early 1770s as being at the pioneer stage of development, with settlement and farming along stream valleys, but not yet widespread in the uplands. His regionalization of the Piedmont places Chatham County in a mixed farming area just south of the tobacco plantation area of Virginia and northeastern North Carolina, where erosive land use was most intensive prior to the American Revolution (Trimble 1974:14-17, 43, 46). Merrens discussed the increasing significance of commercial wheat cultivation in the area during the decade before the Revolution, and points out that wheat marketing in the North Carolina Piedmont was linked with the development of milling centers because it was cheaper to transport flour by overland wagon than to cart bulkier improcessed grain. Lard rendered from pork was also one of colonial North Carolina's most important agricultural commodities with over 115,000 pounds exported in 1770 (Merrens 1964:112-116, 135).

Agricultural production for commercial exchange required a system of established agriculture units linked by a transportation network to a series of local and regional trade centers. Merrens outlines such a pattern of economic geography in late colonial North Carolina, a pattern which prevailed in Chatham County through much of the nineteenth century. As settlement moved inland away from tidal waterways, roads became the most important transportation routes and trade centers in the interior developed at intersections of principal roads. The earliest such center in the vicinity of Chatham County was Hillsboro, established in the 1750s as the county seat of Orange County. Hillsboro provided backcountry settlers with rudimentary political and commercial services. Major roads extended northeast from Hillsboro to Halifax, southeast to New Bern, west to Salem, southwest to Salisbury and south to Campbelltown (now Fayetteville), and minor trackways extended from the county seat into the hinterland. Merchants at the county seat promoted the commercialization of backcountry agriculture by buying agricultural surplus for export, and selling imported goods in return. This exchange of agricultural produce for manufactured commodities in turn contributed to the development of socioeconomic stratification within areas of local resource

production. In addition to economic activity which emanated from established trade centers at county seats, Merrens mentions the local economic significance of decentralized trade associated with dispersed tributary merchandising sites such as gristmills, country stores and taverns. Finally, Merrens discusses the role of itinerant salesmen in the decentralized dispersal of trade goods (Merrens 1964: 142-145, 162-170).

Unlike Hillsboro, Pittsboro as the Chatham county seat, did not enjoy the economic advantage of location at a major transportation crossroads, but by 1810 Pittsboro had developed a network of economic ties which brought farms along the lower Haw and New Hope rivers into the era of established commercial agriculture.

Pioneers began securing land grants around the forks of the Deep, the Rocky, the Haw and New Hope rivers around 1750 (Hadley et al. 1976:5-7) and by 1771 the region had sufficient population, 1150 taxables, to be separated from Orange and organized as Chatham County (Hadley et al. 1976:10; Corbitt 1969: 61-62). By 1787 Pittsboro was established as the Chatham county seat, and it grew up around the courthouse and jail as one of the local urban centers typified by Merrens. A Georgian/Federal style inn, which is still standing, was constructed to house travelers who came to town for the quarterly court week or who journeyed intermittently from Hillsboro, Salisbury and Fayetteville (U.S. Department of the Interior 1982). By 1790, 9200 people lived in Chatham County; 17 percent of them were slaves owned by 310 white masters who were committed to the production of agricultural surplus. The county seat had weekly mail service from Hillsboro and Raleigh by 1794 and by 1808 the earliest available map with sufficient detail depicts Chatham County as traversed by a well established network of roads to Pittsboro from Raleigh, Chapel Hill, Hillsboro, Salisbury and Fayetteville (Hadley et al. 1976:204, 319; Price and Strother 1808). The county had 13,000 inhabitants by 1810, approximately 20 percent of whom were slaves; these statistics remained relatively constant over the next decade, suggesting that Chatham with its established county seat and road system had achieved full agricultural settlement of both its lowlands and uplands by that date (Trimble 1974:51).

Building upon this general background, map, census and cross-referenced local history annotations permit the episodic reconstruction of a detailed picture of agricultural life in the lower Haw and New Hope rivers for the remainder of the nineteenth and into the twentieth centuries. The transportation system was in place with its tracks to individual farmsteads and roads to local and regional trade centers, and the larger landholders in the area practiced mixed agriculture which focused on the production of corn, hogs, and dairy products instead of the more typical Piedmont monoculture with tobacco grown to the north and northeast of the study area in North Carolina and Virginia, and with cotton grown to the south and southwest in North Carolina, South Carolina, Georgia and Alabama (Trimble 1974:Chapter 3). In 1850 Chatham County had 18,500 inhabitants, 6000 or 32 percent of whom were slaves. The county ranked seventh in the state in number of swine (41,000), and bushels of corn (625,000) and third in the state for butter production (117,500 pounds) (U.S. Bureau of the Census 1854). Trimble's analysis suggests that Chatham County had a relatively high percentage of slaves for the region that practiced mixed agriculture and that Chatham's slaves were concentrated in the northeastern, or study area portion of the county (Trimble 1974:60).

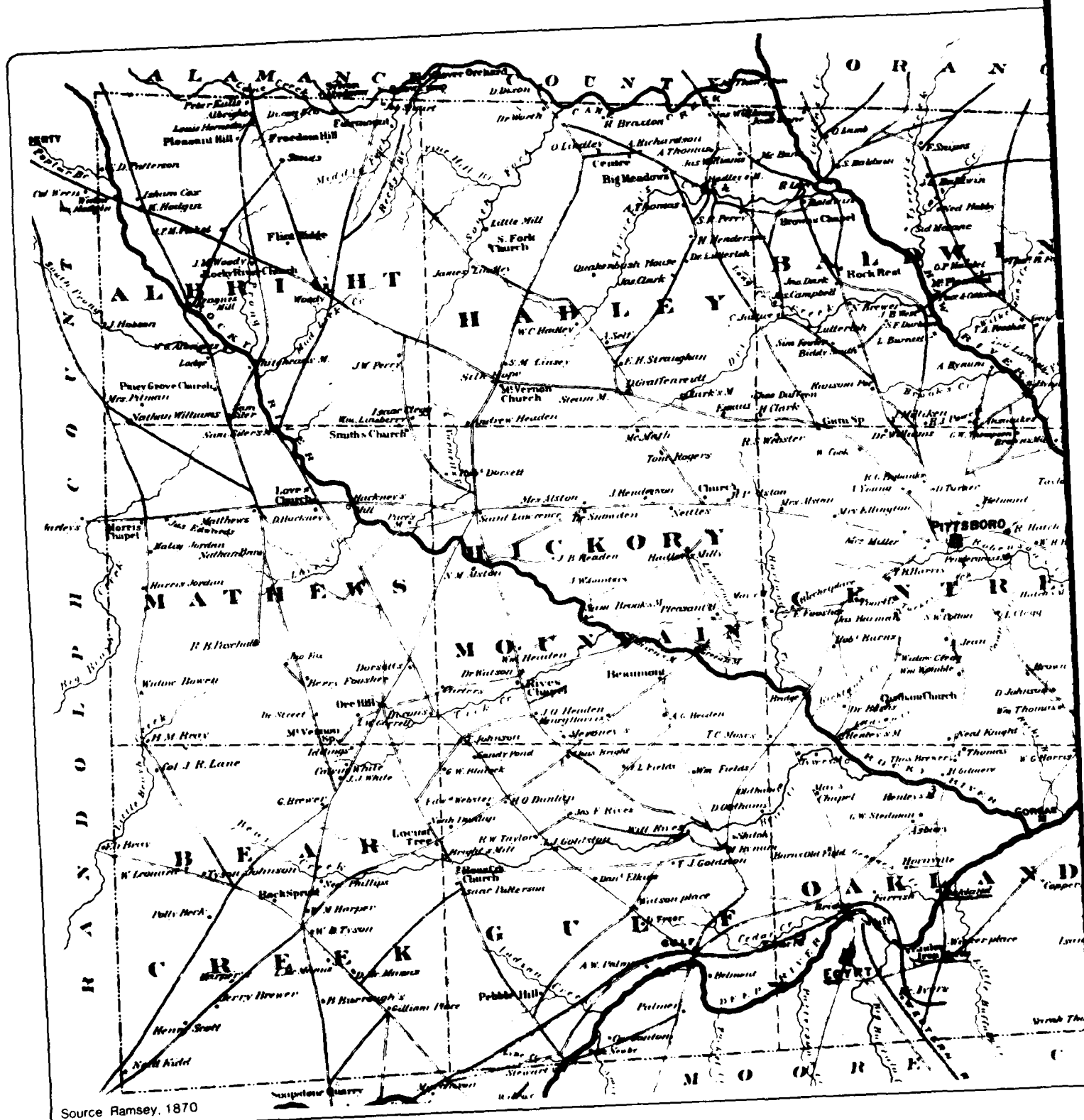
After the Civil War in which 2000 Chatham County residents fought and 400 of them died (Hadley et al. 1976:31), the county was organized into 12 townships which became the local subunits of civil government responsible for tax assessment, roads and schools. The new township boundaries are drawn on Captain N. A. Ramsey's map of Chatham County printed in 1870, which for the first time shows place-names and landholders in Williams and New Hope townships (Ramsey 1870) (Exhibit 1). The townships of Williams and New Hope are the civil units which encompass most of the area, subsequently encompassed by B. Everett Jordan Lake and all of the land from which material culture remains were recovered by the present study.

In 1870 Williams and New Hope townships contained 100 miles of roads and three bridges, as depicted by Ramsey (Exhibit 1). If bridge emplacement is used as an index of principal roads, then three routes with 20 miles of primary roadway crossed the two townships: 1) connecting Pittsboro with Chapel Hill by crossing the Haw River near Bynum's Mill; 2) linking Pittsboro with Raleigh by crossing the Haw River near Taylor's Mill and Griffin's Bridge, and 3) joining Pittsboro and Raleigh by crossing the Haw River near Moore's Mill and Bridge. One-half mile of the Chatham Railroad, completed in 1868 (Hadley et al. 1976:163), crossed the southeast corner of New Hope Township. Ramsey's map shows 55 structures in the two townships: 27 which are presumed to be farmsteads, 9 mills, 6 churches, 2 stores, 2 schools and a fraternal lodge. The remaining 8 structures cannot be positively identified by function: 5 may be churches, 2 may be crossroad stores, and 1 may be a mill. Eight of the 55 structures are not located on any of the roads drawn by Ramsey, which suggests that his map does not depict minor trackways.

The Baptist churches at Listra, Mt. Gilead and Gum Spring were respectively founded in 1852, 1824 and 1829 (Hadley et al. 1976:236-238). The Methodist churches, Merrit's Chapel and Ebenezer, were organized in 1857 and 1827 (Hadley et al. 1976:244; Adams et al. 1979:23). Martha's Chapel was established as a Christian church in 1803 (Hadley et al. 1976:257). The George Washington Lodge at Lasater's Crossroads was chartered in 1855 (Hadley et al. 1976:311), the same year that the New Hope Academy was incorporated (Hadley et al. 1976:267).

Of the 17 farmstead owners for whom biographical information has been found, 7 are noted for their political activity: 5 participated in county level politics, and 2 served in the state legislature. Five of the property owners were involved in the direction of township education: three were New Hope Academy Trustees, and two served on school district committees. Of the remaining three property owners one was a minister, one a merchant and one an officer of the George Washington Lodge (Hadley et al. 1976).

Among the larger landholders, widow Mason in north-central Williams Township owned 8 slaves in 1860 (U.S. Census Manuscripts, Slave Population 1860), and her plantation produced 90 bushels of wheat and two 400-pound bales of cotton (U.S. Census Manuscripts, Agriculture 1860). The year before, at the time of her husband's death, the estate inventory listed 20 slaves and 4 slave houses, 230 swine, 9166 pounds of bacon, 1412 pounds of lard, 31 sheep and 21 cattle, 101 bushels of grain and 198 barrels of corn. The economic self-sufficiency of the plantation is evidenced by the inventoried grindstones, corn sheller, brine salt, log chains and saws, spinning wheel and loom, and carpenter and blacksmith tools, while economic



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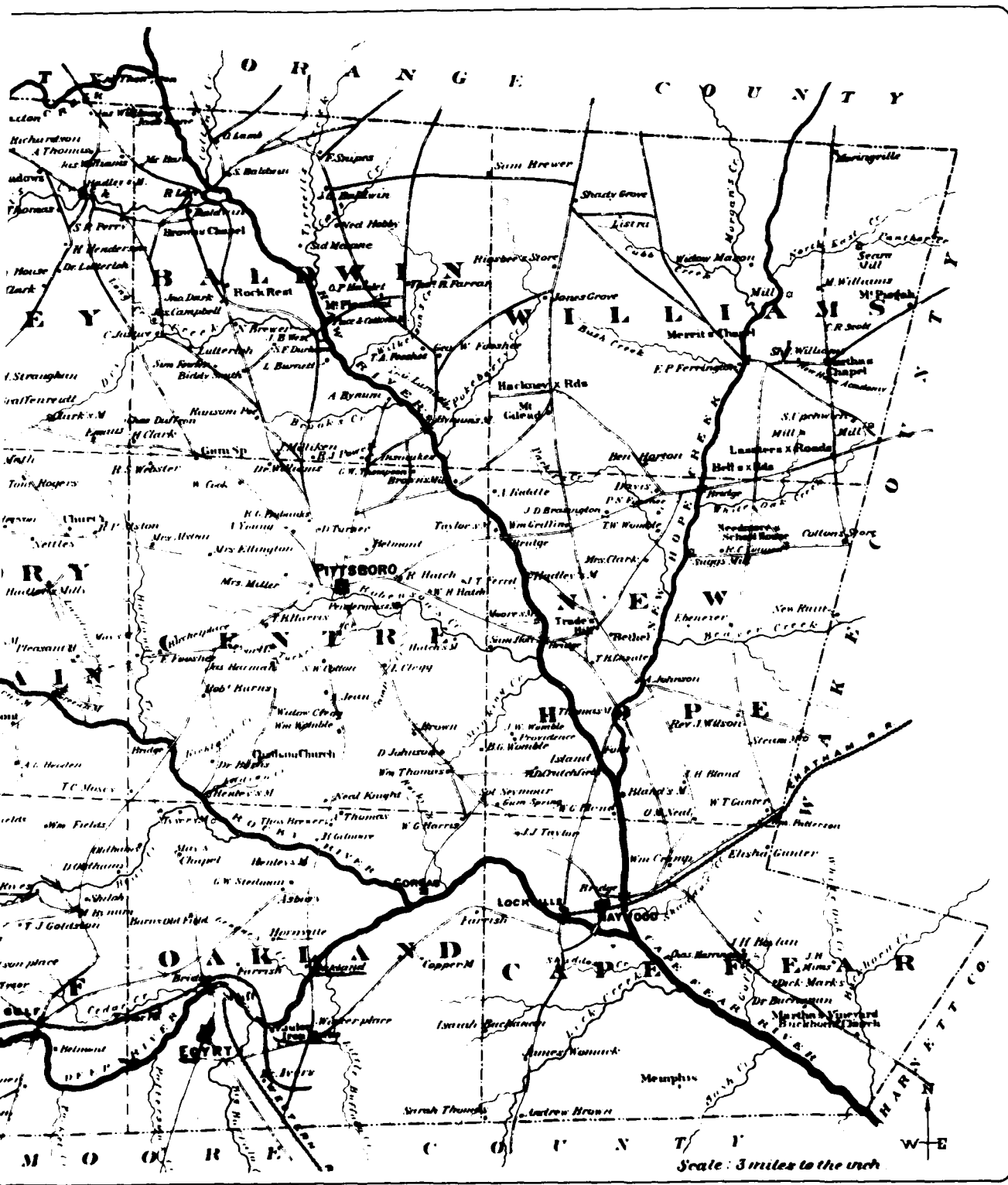


EXHIBIT I
CHATHAM COUNTY-1870

2

status for the estate valued at approximately \$25,000 is recorded by the listing of household furnishings and personal possessions including a desk and bookcase, dishware, a clock and a gold watch. The house, still standing and listed in the National Register of Historic Places, and 1027 acres of land passed into the possession of widow Elizabeth Mason (U.S. Department of the Interior 1974; Chatham County Estates 1859).

Other prominent property holders shown on Ramsey's map lived along Parkers Creek in north-central New Hope and south-central Williams townships. Ben Horton, a school district committeeman (Hadley et al. 1976:272), owned 11 slaves in 1850. The following year his 500 acre farm had 65 swine, 12 cattle, and 6 sheep, and the farmstead produced 500 bushels of barley, 350 bushels of wheat, 100 bushels of corn and 800 pounds of butter. Merchant Frederick Davis owned 5 slaves in 1850 and 12 in 1860; the fact that in 1860 Davis could have owned no more than one slave whom he had owned in 1850 (slave schedules record no names, only age, sex and color) suggests that he may have been engaged in the slave trade. P. N. Foushee, son of a schoolteacher and himself a prominent Republican during Reconstruction (Hadley et al. 1976:106), worked a much smaller farm without slaves, producing 156 pounds of butter in 1860. T. W. Womble, a state representative in 1866 (Hadley et al. 1976:438), owned 10 slaves in 1850 and 13 in 1860; in 1860 Womble's farm had 20 swine and produced 250 bushels of corn and 63 bushels of wheat (U.S. Census Manuscripts, Agriculture 1850, 1860).

The biographical data on persons living in the two study area townships at mid-nineteenth century portray a region of established mixed agriculture characterized by relatively intensive use of slave labor to raise swine, corn and wheat. A number of mills were available to grind the wheat, and the transport of agricultural surplus was facilitated by the existence of a network of primary and secondary roads and tracks; political ties were established at the county and state level; cultural services were provided by local churches, schools and fraternal orders; and differential access to this mature economic, political, and cultural infrastructure is clearly reflected by marked social status stratification.

After Emancipation most former slaves became tenant farmers, a transition which was accompanied by increased cultivation of the traditional cash crops (tobacco and cotton), an increase in erosive land use, and a decrease in the mixed agriculture production of corn and hogs. Chatham County produced 6 times more cotton in 1890 than in 1860 and 2.5 times more tobacco, while raising 30 percent fewer swine and growing 16 percent less corn (U.S. Bureau of the Census 1864; Hadley et al. 1976:355). Chatham County's predominantly rural population held relatively constant at around 24,000 inhabitants from 1880 into the twentieth century (Hadley et al. 1976:442), but farmstead abandonment occurred, particularly in areas where tenant cash crop cultivation caused increased soil depletion (Trimble 1974:78).

Despite the introduction of commercial fertilizer and improved farm implements in the late nineteenth century (Jurney et al. 1937:7) and the beginnings of road surface improvements in the early twentieth century (Hadley et al. 1976:63), rural poverty came to predominate at least among tenant farmers in the study area. In 1922 a comprehensive survey of tenant farmers in Balwin and Williams townships of northeastern Chatham County reported that, "The aristocracy of the old slave plantation died out or moved away long years ago. Hardly a vestige of the old social order remains" (Dickey and Branson 1922:10). The canvas

of 329 farmsteads in the two townships recorded 135 white and 41 black farm owners, and 102 black and 51 white tenant farmers. Thirteen of the 176 landlords ran small roadside stores. Although two-thirds of the landowners were active farmers, their farms evidenced the twentieth century cropland abandonment noted by Trimble and other cultural geographers (Trimble 1974:81,87; Hart 1968). The survey observed, "most of the land of the farm owners is lying idle, because farm labor has drifted into the cotton mills at Carrboro, Bynum and elsewhere, or is getting better wages at public works on roads, bridges and buildings, or in hauling, jitney driving, and odd jobs of various sorts in nearby towns" (Dickey and Branson 1922:13). Tenant farmers worked their land, but with remarkably small return; the average tenant farming income was recorded as \$225.50 for 1922. White tenants averaged five inhabitants per household. Most of their homes, built in the nineteenth century, were four room double pens; almost all had wells at least 20 feet deep, but only a quarter had privys. One-tenth of family income was spent for patent medicines, doctors fees and druggist prescriptions, and one-third of the children born to these families died (Dickey and Branson 1922:14, 23-25). The study concluded that the harshness of tenant life was largely responsible for a 39 percent drop in population for the two townships between 1890 and 1920 (Dickey and Branson 1922:37).

The Great Depression halted the trend toward rural depopulation during the 1930s because of that decade's diminished opportunities for wage labor employment off the land, but intensive cash crop farming continued to deplete soil resources. A U.S. Department of Agriculture soil survey for Chatham County noted a 100 percent increase in the acreage in tobacco cultivation between 1890 and 1934. The study found that bright-leaf tobacco was grown especially in the study area townships of Williams and New Hope. Tobacco production required complete fertilizers for satisfactory yields, but the Depression forced many farmers to reduce their purchase of fertilizer and "a common practice was to farm the land until the natural fertility was exhausted through cropping and subsequent erosion of the surface soil, and, when the production of crops was no longer profitable, the land was abandoned . . . Evidence of recent land abandonment still may be seen in the central, southern, and eastern parts of the county, where second-growth pine trees cover much land formerly cultivated" (Jurney et al. 1937:7,11).

Organization of the North Carolina Rural Electrification Authority in 1935 and the Haw River Soil Conservation District in 1939 facilitated post-World War II agricultural specialization and linked it with less exhaustive land use. Five times more tobacco was grown in Chatham County in 1965 than in 1890, although total acreage in tobacco cultivation actually decreased by 20 percent over the same time period. Corn production dropped seven percent between 1890 and 1965, whereas the acreage in corn cultivation declined almost fivefold. During that 75 year time span, wheat output dropped 50 percent and wheat acreage declined sevenfold. The most dramatic increase in agricultural production which accompanied rural electrification was in poultry and eggs; Chatham County ranked fourth in the state in 1965 in revenue from poultry and eggs numbered respectively, at 39,300,000 and 3,347,500 dozen, in contrast to 1890 totals of 180,000 and 194,000 dozen (Hadley et al. 1976:355-370).

Northeastern Chatham County has undergone a remarkable succession of changes in its cultural landscape from the mid-1700s to the last quarter of the twentieth century. Bottomlands began to be cleared during the Revolutionary era. Uplands were occupied and a transportation network was established by 1810,

ushering in an era of mixed commercial agriculture in which the largest landholders used a substantial slave labor force to raise corn, hogs, and wheat. Tenant farmers began to grow more cash crop tobacco after the Civil War to the detriment of the land's fertility. Rural poverty prompted rural exodus until the Depression when electrification and soil conservation practices were initiated to prepare for post-World War II intensive agricultural management of fewer farms with fewer acres in cultivation.

The historic period material culture recorded by this project survey is associated with antebellum slave labor mixed agriculture and with postbellum small and tenant farming. Neither pattern of agricultural usage prevails today, and the historical archeological artifacts recovered from those eras are resources as finite as the fragile soil fertility which sustained their ways of life.

ARCHITECTURAL OVERVIEW

Twenty-nine previously unrecorded historic sites were discovered during the 1982 survey. Sixteen of these sites included standing structures and remnant structural features. In addition, a previously recorded site, the Mason Farm Complex, was included in the field schedule to allow further archeological investigation of subsurface remains as well as analysis and documentation of standing structures on the site. In all, 8 standing structures and 37 remnant structural features were encountered in the study area. Sixteen structures represented the remains of dwellings. The remainder consisted of outbuildings, including tobacco barns, kitchens, stables, barns, coops, springhouses, packhouses, and miscellaneous multifunctional structures. Condition of historic structural elements ranged from standing buildings in fair condition to foundations delineated only by scant architectural remains. All structures encountered during the survey were mapped, sketched, and their architectural attributes noted in detail. Analyses of architectural remains were relied on as an adjunct data set, used in conjunction with the archeological record in evaluating the significance of the historic sites. Data relevant to historic site formation processes and cultural resources management were also obtained through spatial analysis of historic structural remains. Building materials associated with structural remains were carefully noted, as they are important in chronological assessment, particularly when architectural remnants are fragmentary.

The first building materials utilized by settlers are those locally available, in the case of the study area: wood and stone. Horizontal log construction as a building tradition has been attributed by most as originating with German settlers, who brought log building traditions to Pennsylvania as part of their cultural experience. Scotch-Irish settlers arriving in the eighteenth century quickly adopted horizontal log construction, and employed it in building single pen dwellings traditional in the British Isles (Swain 1978:30; Bealer et al. 1979:23; Glassie 1968:347). The once ubiquitous log cabin was thus introduced along the frontier by Scotch-Irish and German settlers who had arrived in Chatham County by 1750 (U.S. Department of the Interior 1982:1). Horizontal log construction of outbuildings and dwellings was used in the southern United States well into the twentieth century (Bealer et al. 1979:134). Examples of log construction were noted in the study area in eighteenth, nineteenth and twentieth century contexts.

Variables were observed on remains of log structures which provided clues to their chronological age and to the possible ethnicity of their builders. Logs used in cabins constructed during initial settlement of an area tend to be massive, due to the availability of virgin stands of timber (Bealer et al. 1979:114; Wilson 1982:27). Log structures observed in the study confirmed this, with the largest logs observed in the eighteenth century example, and progressively smaller logs used in more recent log construction.

An important element in horizontal log construction is the corner notch. Notching styles are determined by such variables as structural function, ethnicity, and skill of the builder (Elbert and Sculle 1982:2). Notching styles are distributed regionally, reflecting historic settlement patterns. Of the eight notching styles observed in the United States, Kniffer and Glassie (1966:61) record half-dovetail, saddle, and V-notching as the prevalent types in western North Carolina. The 1982 survey recorded three types of notching: half-dovetail, saddle, and square (Figure 6). Half-dovetail notching was derived from the full dovetail technique. Half-dovetail notching was easier to craft than the full dovetail variety, and retained the stability provided by a dovetail notch. As an additional benefit, the outward slope of the notch allowed rain water to drain before the accumulated moisture could hasten decomposition of the wood (Bealer et al. 1979:41). These advantages made half-dovetail a favored notching style for use in log house construction. Architectural historians associated the half-dovetail notch with builders of English descent (Bealer et al. 1979:41). The sole example encountered during the survey was very likely constructed shortly after the Revolutionary War by John A. Mason.

Saddle notching is a relatively simple notching method, carried into the Carolinas by the Scotch-Irish, and often used in construction of log outbuildings requiring less exacting craftsmanship (Elbert and Sculle 1982:3; Bealer et al. 1979:41). Saddle notching survived to become the notching method employed in examples dating from the twentieth century (Bealer et al. 1979:114). All saddle-notched log structures in the study sample were constructed of thin logs, some retaining original bark, and yielded artifactual evidence confirming twentieth century construction.

Square notching was the easiest notch form to make. This style was frequently employed as a method of frame construction, for when used alone its notching will not lock the logs in place to prevent lateral or horizontal slippage. Bealer and Ellis (1979:42) writes:

Most of the square notched houses seen were built between 1790 and 1820, a period when the American Frontier was moving rather rapidly to the West, at a time when the accumulated capital of the tidewater regions could allow some different families to invest in new lands in the wilderness and also to build a better house once they had worked the new lands.

Square notching then was frequently a substitute for mortise-and-tenon frame construction which was used in finer quality homes built prior to 1840. A shortage of skilled labor and tools existed in newly settled areas, making the log pen frame an attractive construction alternative. Square notching insured prim, square



Half-Dovetail



Saddle Notch



Square Notch

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FIGURE 6
NOTCHING TECHNIQUES

corners, over which clapboard was nailed, thus securing the frame. Examples of square-notched structures in the survey sample feature remnants of exterior clapboard. Architectural surveys of southern states farther west confirm Bealer's contention that square notching was a frontier phenomenon. Eugene Wilson's (1975:16) survey of structures in Alabama yielded only one example in that state. Three examples of square-notched architectural remains were located by the 1982 survey. Two of the sites yielded artifactual evidence consistent with an eighteenth, or early nineteenth century occupation date.

The earlier structures' foundations were made of fieldstone, a building material readily available on the North Carolina Piedmont. Foundation piers were constructed on the cleared site at the corner of each planned pen, without mortar, as the first step in the building process (Wilson 1975:9). A majority of the piers noted in the study were of unmortared fieldstone. Often their location provided the only surface clue to the structure's dimensions or even its very existence. Piers from later contexts were constructed of mortared brick or cement. Examples were noted on sites which bore evidence of twentieth century occupation. Wooden piers were observed in some cases, but these appear to represent repair episodes rather than the initial mode of construction.

Fieldstone was also utilized in chimney construction where it was held in place by lime or clay mortar. Fieldstone chimneys were present in partially standing condition on six historic homesites. Fieldstone rubble piles representing former chimneys were present on 14 of the 16 homesites recorded. Chimneys tended to be massive in size, a characteristic typical of chimneys pre-dating the second half of the nineteenth century as they served the dual functions of cooking and heating (Bealer et al. 1979:90). Chimneys recorded during the survey averaged six feet in width. Wooden lintels were preserved intact in four cases, another sign of early occupation, as lintels were of stone or brick in later structures. As the frontier zones became more integrated economically with core areas to the east, brick became the favored material used in chimney construction. Nineteenth century examples were noted at 31Ch541 (c. 1840) and on the Mason House (c. 1850). Twentieth century brick chimneys, relatively diminutive in size and bonded by cement, were also observed, often as additions installed by recent occupants of early homesites.

Historic homesites encountered during the survey were variants of four basic folk house types defined by Eugene M. Wilson (1975, 1981) in his studies of rural buildings in Alabama and Mississippi, and Michael Southern (1978) in his study of I-houses in the North Carolina Piedmont. Wilson's research has been further digested by John R. Kern (1982) in his investigations of Sharpley's Bottom. The four types observed were: 1) Single Pen - a one bay rectangular structure with a gable end chimney; 2) Dogtrot - two pens with at least one gable end chimney and the pens aligned, clear gable to clear gable, but separated by a roofed-over passageway; 3) Double Pen 31Ch538 - two pens with at least one gable end chimney and the pens abutted clear gable to clear gable; and 4) I-House 31Ch541 - a two-story home at least two rooms wide but only one room deep, with the main entrance on the long side.

The Single Pen log house was undoubtedly the earliest historic folk house type in the region. Built prior to 1840, first generation Single Pens used stone or wood foundation piers. On them were placed squared sill logs which were 12 or more inches on a side in cross section. The sills extended the length of the longer

front and rear walls. Sleepers of log, hewn flat on the top and flat notched on the ends, were placed at right angles between the sills to support the floor. The wall logs were hewn on their vertical planes to a thickness of 6 to 8 inches and were joined, usually with half-dovetail or square corners. A Single Pen was constructed with seven or eight sleepers and about 40 wall logs, 10 on a side. Loft joists were placed between the logs of the front and rear walls 7 to 9 feet above the floor. The loft joints were usually mortised into the wall logs and the walls commonly extended two or more feet above the joists to provide more loft space; access to the loft was usually by a small corner stairway. Progressively shorter gable end logs supported roof ribs which reached a peak at the ridge pole. Roofing was provided by clapboards held in place with weight poles. Chimneys were of fieldstone, centered at the outside of a gable end wall, and partly enclosed by the gable eave. Doors were centered in the longer front and rear walls and one or two windows were placed on one or both sides of the gable end chimneys. Wilson (1975:26) found that the first generation Single Pen log houses built before 1840 averaged 21 feet across the long front facade and slightly over 17 feet across the gable end.

Second generation log Single Pens built between 1840 and 1880 continued to use foundation piers, square hewn sills, and log floor sleepers, and continued to feature a gable roof with the roof ridge parallel to the sills and a gable end chimney centered against the outside wall. Front and rear doors centered above the sills in the long walls. Second generation Single Pen log houses, however, used brick instead of fieldstone for piers and chimneys and employed thinner logs to construct a somewhat smaller log core whose space was frequently supplemented by the addition of frame shed appendages. Gable end logs and roof ribs were replaced in second generation pens by vertical poles, horizontal gable side boards and rafters which were nailed to form a gable roof frame.

Third generation Single Pen houses built after 1875 were of frame and weather boarding construction. Lumber elements were not hewn by hand, but were of milled lumber. Frame Single Pens were usually ceiled and had no loft access. Typically smaller and more nearly square, frame Single Pens in Wilson's (1981:71) sample averaged less than 16 feet on a side, but rear and side sheds were often added to the core cell.

The basic pattern of evolution for the Single Pen, from first generation log to second generation log and frame to third generation frame construction, applies also to developmental change in Dogtrot construction. Wilson found that first generation Dogtrot houses built before 1840 averaged about 19-1/2 feet across the front of each of their two pens (often one pen was longer than the other) and 17 feet across their gable ends. The dogtrot between the two pens averaged over 9 feet in width. The two pens were entered by doors centered in the front and rear walls. The only windows were usually placed at the chimney gable ends (Wilson 1975:30, 32).

Second generation Dogtrot houses built between 1840 and 1880 were constructed of smaller and more nearly square log pens which averaged slightly more than 17 feet on a side; the average width of the dogtrot passageway was very close to 9 feet. Often one of the pens was entered by a door centered on the dogtrot gable end, and a window then replaced the front facade centered door (Wilson 1975:30, 34).

Third generation Dogtrot houses built between 1875 and 1920 were of frame construction, averaging less than 16 feet on a side and the dogtrot passageway less than 8 feet in width. Both pens were usually entered through gable end doors centered in the passageway and large centered windows replaced the front facade entrances. As with third generation Single Pens, frame Dogtrot houses frequently featured additional appendages (Wilson 1981:73).

Evolutionary development of Double Pen house construction has not been well established by architectural historians, perhaps due to the fact that pens were often constructed at different times, as additions to what may have originally been a Single Pen house. Wilson found that nineteenth century Double Pens featured pens of unequal front facade length and that the larger pen was usually of original construction.

I-houses evolved from English folk housing tradition to become the dominant house type throughout the Upland South beginning late in the eighteenth century (Southern 1978:71). I-houses were symbolic of economic success in an agrarian society. Architectural historians attribute its popularity to the status symbol appeal generated by the fact that an I-house presents the largest facade possible for what is actually only a four-room house.

The earliest I-houses were upward extensions of one-story hall and parlor floor plans. Center-hall plans were extant in the late eighteenth century, but did not become the common I-house plan until after 1820 (Southern 1978:72). By the Civil War, the symmetrical center-hall I-house became the standard until the early twentieth century. Early period I-houses feature massive brick chimneys with cut stone occasionally observed. Verticality was emphasized by free standing chimney stacks. Mortise-and-tenon frame construction, using heavy timbers, was used beneath molded or beaded weatherboard. I-houses constructed in the nineteenth century reflect architectural styles popular in their time. Georgian, Federal, and the romantic revivals of the mid-nineteenth century are commonly noted stylistic elements of I-houses studied in North Carolina. Center gables became a common feature on I-houses of the later nineteenth century. Chimneys became steadily smaller and thinner, sometimes brought completely inside the gable end (Southern 1978:81).

PREVIOUS ARCHEOLOGICAL RESEARCH

While most of the earlier work in the study area focused simply on locating archeological sites and identifying their cultural components, the past few years has witnessed the development of elaborate research designs involving the explicit formulation of specific hypotheses concerning such issues as technological organization of hunters and gatherers, life-history stages of projectile point forms, changing man-land relationships and prehistoric subsistence strategies, emphasizing various resource spaces. The intent of this report is to integrate the culture-historical research with the problem oriented research. To obtain this goal, data recovered from the early surveys were reanalyzed in light of research questions developed in later investigations and landform classifications established by the present authors. This information will be discussed later in this report (Chapters VI and VII).

Claggett (in Claggett and Cable 1982) has presented a detailed summary of the early archeological research in the B. Everett Jordan Reservoir. Therefore in order to avoid duplicating this material, this discussion will focus primarily on the research objectives and results of various individuals' fieldwork over the past 19 years. For an excellent summary of past research in the study area, the interested reader is referred to Claggett (in Claggett and Cable 1982).

In 1964, Gerald Smith (1965a,b) located 176 archeological sites during a pedestrian survey of cultivated fields and other areas with little or no vegetation cover. All sites found during this survey were surface collected and the materials returned to the University of North Carolina for analysis. Although Smith's work resulted in the recordation of a large number of archeological sites, subsistence-settlement interpretations remained problematic because of a severe sampling bias introduced as a result of investigating only plowed fields (Smith 1965b:1).

However, in interpreting the data recovered from the 1964 survey, Smith provides the following summary information pertaining to site distributions by cultural-historical period. The overall trends in the data suggest a gradual increase in the utilization of the region from Paleo-Indian (identified on the basis of Hardaway projectile points) through the Late Archaic periods. Paleo-Indian sites were few in number with many of the sites identified on the basis of isolated finds widely scattered across the project area. Early Archaic sites occurred more frequently than the preceding period but still reflect only minimal usage of the valley. Like the Paleo-Indian sites, the Early Archaic components are characteristically light density occupations with the majority (82 percent) of the sites occurring in upland situations. Kirk Phase occupations were widely scattered across the project area, while the Palmer Phase sites tended to be geographically restricted to the central and headwater region of the New Hope River drainage (Smith 1965b:150). Unlike the distribution observed for the Palmer and Kirk sites, the Stanly Phase sites were discovered on low rises in the bottomlands (Smith 1965b:151).

The Middle Archaic period reflects a steady increase in the utilization of the valley. Morrow Mountain Phase sites occurred more frequently along the low-lying hills surrounding the drainage although several sites indicative of this period were located in the bottomlands next to streams (Smith 1965b:151). Guilford Phase sites were more frequent than the preceding Morrow Mountain sites, with the majority of the occupations occurring in the bottomlands. The shift from upland sites to bottomland sites during Morrow Mountain and Guilford times suggests an earlier change in subsistence-settlement strategy than previously thought. In fact, the Guilford Phase adaptation observed by Smith for the New Hope River drainage may have served as the precursor for later adaptations which focused mainly on the exploitation of riverine resources.

Maximum utilization of the river valley occurred during the Late Archaic period. Sites representing this period are found in all environmental zones and in all regions of the drainage, suggesting a broad based economy exploiting a number of different resources. Smith identified 15 separate varieties of Savannah River point forms. His study indicates that varieties 1, 2 and 6 were found predominantly in upland environments. Examination of the various Savannah River projectile point plates (Smith 1965b:183-187) indicates that a relationship of reduced blade width, the presence of small retouch flake scars along the blade margin and square straight-based haft elements comprises the upland tool

assemblage. In contrast to this pattern, projectile points discovered in the bottomlands demonstrate a wide diversity in blade and haft-element morphology. The observed patterns in Late Archaic projectile point morphologies suggest the possibility of functional diversity which in turn may be related to land use patterns.

Following the intensive utilization of the New Hope River Valley during the Late Archaic period, human activity decreases in the region during the Developmental (Woodland) period. This pattern was observed by the sharp reduction in the number of sites and the amount of material culture associated with this period. Projectile point styles indicative of this time (Badin, Yadkin and Uwharrie) are found infrequently and usually on sites without ceramics. Concluding the occupational history of the valley, Smith (1965b) notes in passing that early historic sites (brick and ceramic scatters) were found most frequently in the uplands.

During 1967 and 1968 (McCormick 1969) additional survey work was conducted, resulting in the discovery of 124 new sites. Sixty-three previously recorded sites were relocated and collected. As was the case with Smith's survey, McCormick restricted his survey to cultivated or cleared lands below the 240 foot contour. Conclusions based on these surface collections reaffirmed the predominance of Late and Middle Archaic sites in the reservoir area. McCormick (1970:28) recommended that eleven sites be tested on the basis of deeply stratified deposits. These excavations were conducted in 1968 and 1969 on sites Ch-8, 28, 29, 159, 34, 90, 44, 45, 231, 33a, and 33; only the former three exhibited any evidence of "cultural stratification" (McCormick 1969:31). Results of test excavations at Ch-8 indicated that the length of occupation spans the Middle Archaic through Middle Woodland times. Site Ch-28 produced Middle Archaic and Late Woodland occupations. As no diagnostic artifacts were recovered below the plow zone at Ch-29, the claim of cultural stratification appears ambiguous.

In 1974 excavations were conducted at sites Ch-29, 33a, 159 and 231 under the direction of Jack Wilson, Jr. (1976). Wilson concentrated his efforts on Ch-29 in an attempt to delineate the Woodland sequence and to resolve the questions concerning the New Hope pottery series first defined by Smith (1965a,b). Cultural materials recovered from Ch-29 represented Middle Woodland through Historic Aboriginal occupations.

As discussed by Claggett (in Claggett and Cable 1982) the location and excavation of stratified sites was one of few clearly stated goals for investigators like Smith (1965), McCormick (1969, 1970) and Wilson (1976). This was due especially to their research objectives of deriving artifact sequences and, eventually, local cultural chronologies comparable to those of Coe (1964). However, attempts to find and excavate potential sites of that category met with very limited success. The Farrar Farm site complex (31Ch44, Ch45, Ch190 and Ch231), located near the confluence of Beaver Creek and the New Hope River, and site 31Ch34 (at the Haw/New Hope confluence) were tested by McCormick (1970) in hopes of finding stratified archeological components. Unfortunately, none of these sites produced the anticipated results. Other University of North Carolina -Chapel Hill excavations conducted by McCormick (1969, 1970) and Wilson (1976) at what are now called the Haw River sites (31Ch8, Ch28 and Ch29) were somewhat more successful in that regard, although attention was concentrated mainly on Late Archaic and Woodland components in fairly shallow stratigraphic contexts (see Claggett, in Claggett and Cable 1982).

Subsequent to the University of North Carolina projects, numerous smaller archeological surveys and excavations (see Autry 1976; Newkirk 1979; Adams et al. 1979; Mueller et al. 1979; Cable 1981; Claggett and Cable 1982) have been conducted in the B. Everett Jordan Dam and Lake area. Of particular interest are the excavations conducted at 31Ch366 (Cable 1981) and the Haw River sites (Claggett and Cable 1982). Both of these reports are important to the archeology of the study area because they represent the first attempts to formulate detailed and explicitly stated hypotheses. Given the significance of these large and extensively analyzed data sets, these works will be discussed in more detail below and in Chapter IV.

In 1979, Commonwealth Associates implemented a testing program at 31Ch366 consisting of 22 one meter square test units and 12.5m x 2m slot trenches. Five cultural features were discovered in these units. Three of these appeared to represent post holes and were interpreted as representing the possible remnants of a once rather substantial structure (Cable 1981:31). However, the radiocarbon dates argued against such an interpretation providing dates ranging from 3530 $\pm$ 60 B.P. to 1120 $\pm$ B.P. for the three features. It is obvious from the radiocarbon dates that these three features were not contemporaneous and that the occupational history of the site is much more complex than originally thought (Cable 1981). The two remaining cultural features discovered at 31Ch366 include a hearth (Feature 4) radiocarbon dated to 1070 $\pm$ 70 B.P. and a post hole (Feature 5). Ethnobotanical analysis of Feature 4 resulted in the identification of Southern Pine charcoal cone scales, strobili and needle bundles (Moore in Cable 1981, Appendix II). While no charred seed or nut fragments were recovered, the contents and formal attributes of this feature indicate a separate function from the other features found at the site.

Other artifacts discovered at 31Ch366 include projectile points, scrapers, bifacial tools, unifacial tools, modified flakes, cores and debitage. Typological analysis of the projectile points resulted in the identification of Kirk, Morrow Mountain, Guilford and several unidentified Woodland point types (Cable 1981:37).

Analysis results of both the feature information and classification of tool forms to cultural-historical periods led Cable (1981:67, 68) to interpret 31Ch366 as a multicomponent site having at least two major occupations. The first occupation of the site occurred during the Early-Middle Archaic period. The second and more intense occupation dates to the Late Archaic/Early Woodland transition period. This later occupation was judged most significant in terms of yielding information concerning a time in Piedmont prehistory that is even today poorly understood (see Coe 1964).

In 1979, Commonwealth Associates began a program of extensive excavations at 31Ch8 and 31Ch29, deeply-stratified deposits representing 10,000 years of habitation. Large-scale excavation blocks were excavated at the two sites after detailed surface maps and exploratory test units were completed. Examination of the test pit profiles indicated a complex set of natural and cultural stratigraphic processes that required detailed geomorphological analysis to aid in interpreting the archeological sequences.

Analysis of the excavated data set focused on three problem domains including the presence of the Bifurcate horizon at 31Ch29, the nature of the

Archaic-Woodland transition period and investigation of the ceramic sequence which appeared at both 31Ch8 and 31Ch29.

Discussion of the Bifurcate horizon examined three issues:

- 1) Note the presence of significant occupations by Bifurcate horizon groups in the Piedmont, as anticipated by Jefferson Chapman. Prior to the Haw River excavations, Bifurcate materials had never been found in good archeological contexts outside the Appalachian Mountain region, including Coe's Hardaway/Doerschuk sequence.
- 2) Use the Bifurcate occupations at 31Ch29 as a test case for illustrating the effects of environmental stress on cultural systems.
- 3) Provide several alternative hypotheses for the presence of Bifurcate horizon materials in the Piedmont Archaic sequence (Claggett in Claggett and Cable 1982).

As predicted by Chapman (1975), excavation of the Early Archaic occupation zones at 31Ch29 produced evidence of Bifurcate remains. These remains were found in correct stratigraphic sequence, between earlier Palmer/Kirk and later Morrow Mountain floors, radiocarbon dated to 7960±90 B.P. (see Claggett, in Claggett and Cable 1982). While similarities in the projectile point morphologies were observed between the Haw River materials and those found at Rose Island, Ice House Bottom (Chapman 1975, 1976) and St. Albans (Broyles 1966, 1971), other aspects of the tool assemblages differed. For instance, no incidence of a bipolar technology (ground stone tools or preserved floral remains) was observed at 31Ch29.

Geomorphological evidence in association with the Bifurcate horizons indicates a period of increased desiccation, drastically altering the local environmental conditions (see Table 2, this report). Claggett has argued that at the beginning of the Altithermal people experimented with new design elements in their tool assemblage, such as basal bifurcation, in order to cope with new environmental parameters (Claggett and Cable 1982:776).

Three hypotheses developed to account for the occurrence of a Bifurcate tradition at 38Ch29 include:

- 1) As Holocene environmental changes affected mobility patterns of Archaic stage groups, they may have somehow forced population transigrations from more mountainous western regions into the Piedmont. A lack of sites in intervening areas with substantive Bifurcate occupations, and the distances involved, may be cited as potential arguments against that case.
- 2) Bifurcate points are alternative tool forms within a basic Piedmont Kirk stylistic or technological tradition. Recovery of both

TABLE 2

**CULTURAL HORIZONS AND DEPOSITIONAL PATTERNS
DISCOVERED AT THE HAW RIVER SITES
(ADAPTED FROM LARSON IN CLAGGETT AND CABLE 1982)**

<u>Date (Years B.P.)</u>	<u>Lamella (Block A, 31Ch29)</u>	<u>Occupation Floor</u>	<u>Depositional Pattern</u>
12,000-10,000	16	Hardaway-Dalton	Surface of Pleistocene (?) silt deposits exposed to weathering along the Haw River.
10,000-9,000	11 through 15	Palmer I, II and Kirk Corner-Notched	Increased runoff in Haw River drainage with related increase in sedimentation. Fine to medium grained sands deposited as a blanket across the Indian Creek Fault Zone.
9,000-7,000	6 through 10	Kirk I, II, St. Albans Lecroy, Stanly	Abrupt decrease in sedimentation followed by extended period of minimum deposition. Concomitant decrease in runoff is indicated. Stream flow restricted to main river channels accompanied by possible incision of main channels.
7,000-6,000	3, 5/4	Morrow Mountain and Morrow Mountain Stemmed	Increase in runoff accompanied by heavy deposition of fire to medium grained sands across fault zone.
6,000-4,500	2	Guilford and Halifax	Abrupt decrease in overbank sedimentation implying a drop in runoff and sediment yield. Virtually no deposition on surface of floodplain. Runoff confined to main channel of Haw River.
4,500-3,000	1	Savannah River	Increased deposition of fine sand on floodplain through overbank flooding.
3,000-1,500	Blocks B & C 31Ch8	Badin	Possible period of minimal alleviation. Major incision into T ₁ alluvial fill apparently begins at this period.

TABLE 2 (Cont.)

<u>Date (Years B.P.)</u>	<u>Lamella (Block A, 31Ch29)</u>	<u>Occupation Floor</u>	<u>Depositional Pattern</u>
1,500-500	Blocks B & C 31Ch8	Yadkin & Uwharrie	Final depositional phase to F ₁ alluvial fill.
500-Present	Blocks B & C 31Ch8	Miss./Protohistoric historic	Incision of present distribution channels and infilling by clayey silts left by overbank flooding.

types from the same occupation floors, occasionally made from identical raw materials, lends credence to that argument. Adequate treatment of the problem would require recovery of larger samples of artifacts and very detailed edge wear studies to determine if, in fact, the several biface forms were serving in identical or disparate functional roles.

- 3) The favored hypothesis centers on Archaic tool forms as reflections of technological adaptations. As predicted by Chapman (1975), Bifurcate remains are present in correct stratigraphic sequence in the Piedmont. Beyond merely a stylistic element, however, they are felt to represent substantial evidence for cultural adaptations to a period of environmental stress. Tool elements were designed to facilitate high maintenance potential and prolong use-lives, under conditions of high mobility, while incorporating variability needed for successful adaptations to relatively rapidly changing environmental conditions. Exact tracing of the development of point base bifurcation or separation of Bifurcate from Kirk variety points may not be so germane to this argument, as was true of the two preceding hypotheses. Instead, the variety of points and other tools assignable to Bifurcate and late Kirk occupations, found in stratigraphically thin occupation zones at 31Ch29, are viewed as material reflections of a short-lived archeological phenomenon at the limits of a predicted ecological range (see Claggett, in Claggett and Cable 1982:177).

Analysis of technological and typological attributes of projectile point and ceramic artifacts from 31Ch8 helped to explain the Archaic-Woodland transition. Of particular interest, was the discovery of a "pre-Badin" occupation zone. Within this zone, crumbly sand-textured ceramics were associated with lithic tool forms that otherwise would be identified typologically as Late Archaic (see Claggett, in Claggett and Cable 1982:769-777). This argument is tempered by the observation that a clear definition of the Late Archaic and Early Woodland horizons was hampered by complex associational and stratigraphic sequences. Nevertheless, it is posited that no abrupt shifts occurred between the Late Archaic and Early Woodland components at 38Ch8 (Claggett, in Claggett and Cable 1982:771), rather a gradual adoption of new elements into the artifact assemblage.

Analysis of the Haw River ceramic patterns proceeded by investigation of technological and typological attributes of individual sherds. Results of this analysis were subjected to a cluster analysis to discern technological trends in type of clay, tempering agent, thickness of ceramic walls and overall quality of the pottery through time. Conclusions drawn from this analysis (see Claggett, in Claggett and Cable 1982:771-772) are outlined below.

1. Pre-Badin ceramics were made from locally available clays. The pots were utilitarian in nature but of poor quality.

2. A deliberate selection of clays and inclusions was evident in the Badin ceramics. This selection is interpreted as a desire for thinner and more durable ceramics than those found in the Pre-Badin assemblage.
3. Yadkin ceramics exhibited a mixture of clays. It is argued that Yadkin potters were attempting to compensate for local clay deficiencies by experimenting with various clay and tempering agent mixtures to increase ceramic quality.
4. Uwharrie ceramics are manufactured from the clay sources as Yadkin potters; however, technological advances are apparent. Crushed quartz became the primary tempering agent during this period.
5. Late proto-historic and historic ceramics showed a high selectivity towards the use of better clays. These ceramics are much thinner and tougher than earlier ceramics. Evidence for the introduction of better firing techniques is clearly demonstrated by this assemblage.

Investigations concerning the "New Hope Series" ceramics defined by Smith (1965b) remain inconclusive. It was observed that feldspar, the diagnostic tempering agent in New Hope ceramics, occurs in many local clays. Therefore, the question remains was feldspar intentionally added as a tempering agent or did potters use local clays with naturally occurring feldspar inclusions?

As discussed earlier, previous research at the B. Everett Jordan Dam and Lake reflects a combination of culture-historical and culture-processual approaches to the study of archeology. From a historical perspective, previous research in the project area over the past 20 years illustrates the changing emphasis of archeological goals and methods from a discipline interested in culture-historical reconstructions to one concerned with developing explanatory models of culture process (see Flannery 1967). It is this latter emphasis on model building that we shall discuss next.

CHAPTER IV

RESEARCH DESIGN

PREHISTORIC SITES RESEARCH DESIGN

Numerous sites containing Paleo-Indian through European occupations have been recorded during archeological surveys in the study area. Additionally, research has been conducted at specific sites including the Haw River sites (Claggett and Cable 1982), the Newkirk site, 31Ch366 (Cable 1981), and sites 31Ch19, 33a, 159 and 231 (Wilson 1976). At the Haw River sites (Claggett and Cable 1982) analysis of artifact assemblages focused on situational versus curated tools in an effort to explain changes in site functions and mobility strategies through time. Supplementing the artifact analysis, paleoecological data from the southeastern United States were used to derive an Effective Temperature model for North Carolina during the Late Pleistocene and Holocene periods. Information obtained from both the temperature model and artifact analysis was used to organize the culture-historic periods into Binford's (1980) forager/collector model of hunter-gatherer adaptative behavioral systems.

The major goal of this report will be to evaluate the forager/collector model utilizing Cable's Effective Temperature gradient (see Cable in Claggett and Cable 1982) and survey data collected on this and previous surveys. This approach provides a continuity in the research design already established for the project vicinity and broadens the research perspective into a regional framework.

Hunter-Gatherer Adaptative Strategies

Analysis of collections excavated from the Haw River sites demonstrated the utility of tool assemblages to evaluate models of prehistoric mobility patterns. The models contrast intensive (residential mobility) and nonintensive (logistical mobility) land use patterns given various resource structures (Binford 1980). It is the geographical positioning and economic importance of these resource spaces that determine which strategy or mixed strategy (strategies combining aspects of both forager and collector adaptations) that a group will adopt to insure group survival. For example, the forager adaptation consists of residentially mobile groups adapted to homogeneous environments where resource spaces are evenly distributed across the landscape. This homogeneous distribution of resources allows both producers and consumers access to supplies as they move to resource procurement locations within short distances from residential base camps. Economically, organisms using foraging adaptations will adopt a generalist strategy in which resources are taken in proportion to their natural occurrence in the environment (see MacArthur and Pianka 1966; MacArthur 1964; Pianka 1978; Wiens 1976). In contrast to the forager adaptation, collectors use not only a residential mobility strategy, but also employ a logistical mobility strategy to gain access to critical resources far removed from the residential base camp. A system of logistical mobility is best suited in heterogeneous environments where resource spaces are geographically dispersed across the landscape. In this environment, special task groups are formed for the purpose of traveling great distances from the base camp to exploit a resource necessary for group survival. Generally, this critical resource represents single prey species characterized by large biomass and

high nutrient value (Cable in Claggett and Cable 1982). Thus, collector adaptations reflect a specialist strategy of resource procurement. Consequently, these two adaptations result in different expectations concerning settlement patterns.

Forager systems (see Figure 7) create two basic site types: residential base camps and locations (Binford 1980). Residential bases are the loci of most processing, manufacturing, and maintenance activities of the group. Alternatively, locations represent places where "extractive tasks are exclusively carried out" (Binford 1980:9). Given the structure of the settlement pattern described above, several generalizations may be proposed about the technological organization of foragers. Since procurement of vital resources is conducted within a day's journey of the base camp, the need for an economizing technology is relaxed.

In contrast to the forager settlement pattern, collectors produce three site types - field camps, stations and caches (Binford 1980) - in addition to the residential base camp and locations. The field camp is where the logistical "task group sleeps, eats and otherwise maintains itself while away from the residential base" (Binford 1980:10). Stations serve as information gathering locations where potential food resources are monitored (Binford 1980:12). Caches are areas where task groups store resources in anticipation of future use (Binford 1980:12).

Binford (1980) argues that ideal foraging adaptations are located near equatorial environments, while ideal collector adaptations are located near the Arctic Circle. As these two adaptations are represented by environmental opposition, the question of interest is: how and in what manner does a group living in a more temperate environment (like North Carolina) mix both residential and logistical mobility strategies when utilizing a given resource space? Another question concerns the storage capability of groups. Since collector adaptations depend heavily on stored food (no real problem for groups living in high latitude locations), what is the adaptational response by groups living in mid-latitude environments where long-term food storage is not possible?

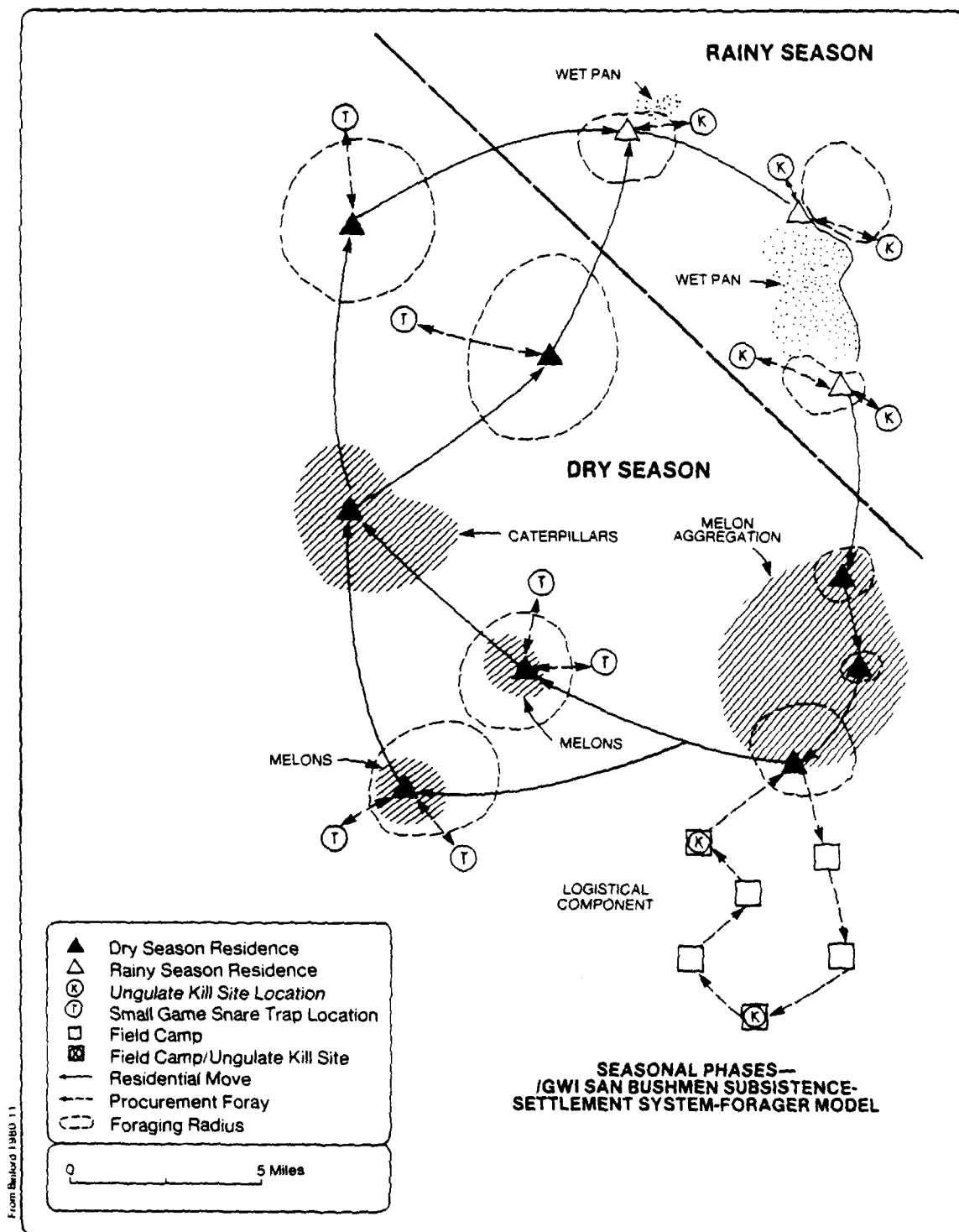
Hunter-Gatherer Land Use Patterns

Another important aspect of the forager collector model is the long-term land use patterns which result from these adaptations. Foragers using a strategy of high residential mobility in a homogeneous environment will produce a dispersed settlement pattern (Figure 8). However, over extended periods of time it can be expected that certain locations will exhibit "clumping" due to occupational overlap. These locations are interpreted as representing relatively high density and stable resource spaces.

Conversely, collectors who use a strategy of low residential mobility in a heterogeneous environment will produce a structured settlement pattern (Figure 8). Clearly, in this instance residences form a nonrandom pattern across the landscape, clustering around vital resource spaces.

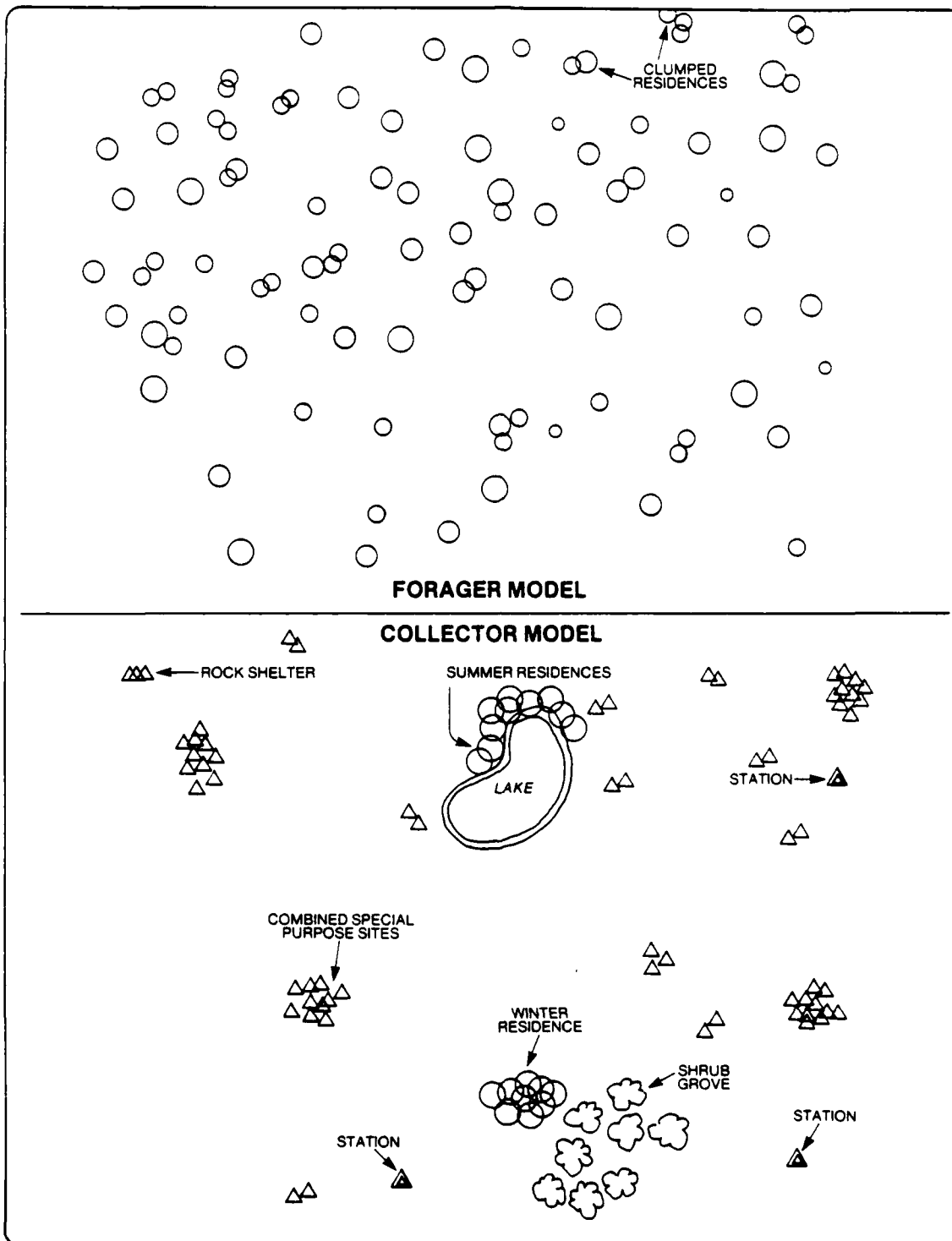
Lithic Assemblage Variability in Forager and Collector Adaptations

The type of settlement pattern and mobility strategy adopted by a group to exploit a given resource space will determine the internal characteristics



CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA
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FIGURE 7
**FORAGING SUBSISTENCE-
SETTLEMENT SYSTEM-
HIGH RESIDENTIAL MOBILITY**



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FIGURE 8
CONSEQUENCES OF
LONG-TERM LAND USE

of the individuals' tool kit. In a foraging adaptation, available raw materials and tool replacements can be obtained easily and with minimal effort from base camp stores (Cable, in Taylor et al. 1982). The combination of a generalist feeding strategy and relaxed economizing behavior has other implications on the form and function of lithic tools used by foragers. These have been summarized by Cable (in Taylor et al. 1982:149) and include:

1. Flake production strategies should be more variable including higher frequencies of expedient core flake manufacture.
2. Bifaces should be more variable in size and life-history stage as a result of need for raw material conservation.
3. As a logical consequence of 1) and 2), debitage should be larger and more variable in forager systems than in collector systems.
4. Flake tools, by virtue of the more variable flake production techniques, should be more variable in size and larger than in collecting assemblages.
5. Since forager systems are less specialized in their pattern of resource exploitation, flake tools should be responsive to a wider variety of uses and therefore should be more functionally diversified than in collector assemblages.

Assuming a collector adaptation, where task groups travel greater distances in order to procure vital resources, a more stringent economizing behavior is imposed on the technological organization of the group. Due to increased commuting and hunting time, "a condition of scarcity develops" (Cable, in Taylor et al. 1982:148) where less time is available for gear replacement and the distance to travel back to the base camp for needed supplies is prohibitive. Therefore expectations concerning the lithic technology of collectors will vary in form and condition from a forager technology in the following ways (Cable, in Taylor et al. 1982:149):

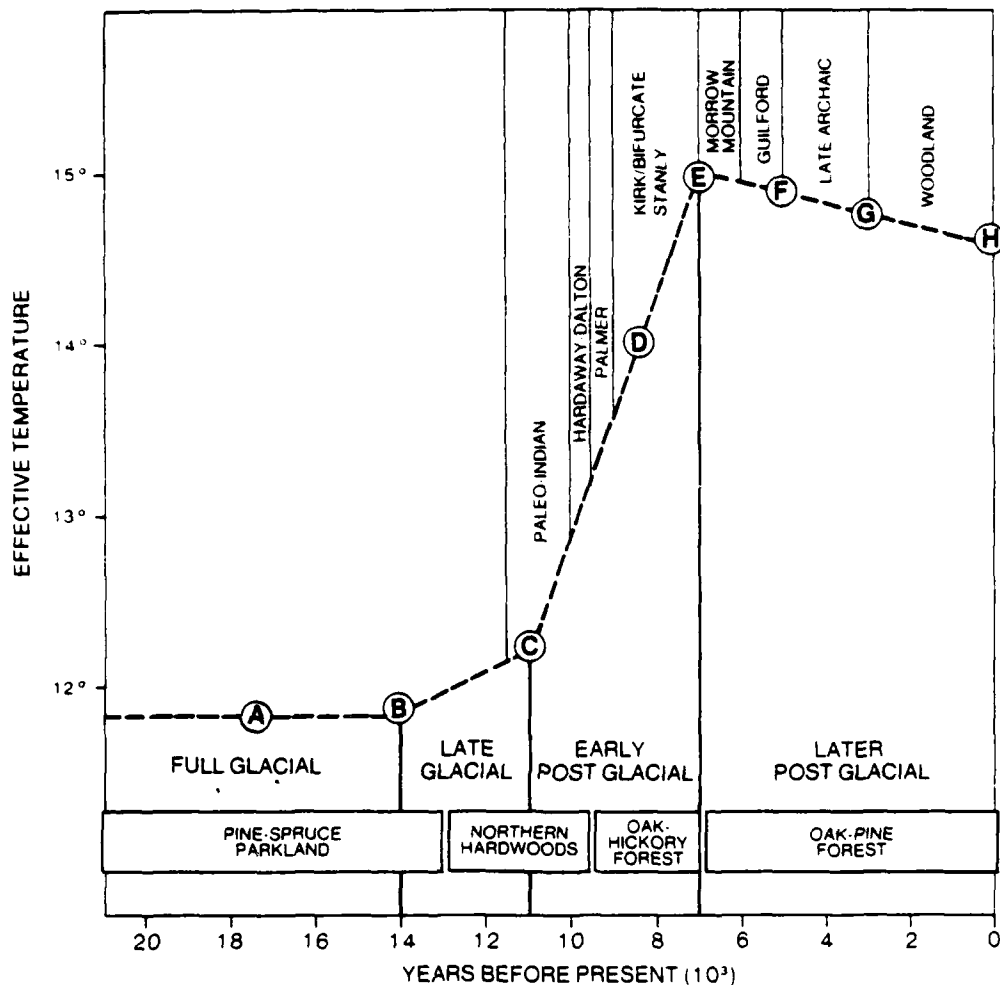
1. Bifaces should dominate flake production strategies.
2. Bifaces should exhibit a high degree of reduction and should primarily appear only in a broken state on special purpose sites.
3. As a logical consequence of 1) and 2), debitage should be smaller and less variable in size than in foraging assemblages.
4. Flake tools should also be smaller and less variable in size than in foraging assemblages.
5. Since collector systems are more specialized in the kinds of resources exhibited, flake tools should exhibit fewer uses than in foraging systems.

Human Organization Response to Climatic Change

As noted earlier, a critical factor determining which adaptation a group employs will depend heavily on the distributional characteristics of the resource base. Paleoecological investigations (Wright and Frey 1965; Chervin 1978; Watts 1970; Duplessy 1978; Davis 1976) have shown the dynamic nature of early and middle Holocene environments within the eastern United States. Basically, warm and dry periods reflect a change from a cool moist homogeneous environment to one in which exploitable resource spaces are geographically dispersed over the landscape. The distances between these resource spaces (patches) are related to both the intensity and the duration of the warmer-drier climate. Cable (in Claggett and Cable 1982), using paleoecological data, constructed an Effective Temperature gradient (see Figure 9) in which culture-historic periods were compared against contemporaneous environmental conditions. Interpreting this information, Cable (in Claggett & Cable 1982:684) argues that:

If we can use the 180 day growing season ($\approx 14^{\circ}\text{ET}$) as a theoretical flux point from which to predict when climatic conditions would have shifted in favor of residential mobility strategies, we can see that this shift should have occurred sometime between the Palmer (or Kirk corner-notched) period and the small Kirk corner-notched/Bifurcate period in central North Carolina. From this we surmise that the first signs of pressure after a basic logistical strategy occurred in the Palmer period, and that a basic residential strategy should have been completely manifested by the climatic optimum.

Acceptance of this model provides the present research with a specific hypothesis concerning the geographic distribution of the various culture-historic groups inhabiting the study area. That is, the culture-historic periods reflected by Paleo-Indian, Dalton and Early Archaic occupations should exhibit characteristics identified with collector adaptations while post-Early Archaic occupations should exhibit characteristics of forager adaptations. However, several problems arise in applying this model. First, paleoecological data are scarce for the late Holocene period, providing little reconstruction of environments for the past several thousand years. Second, technological innovations such as advanced storage techniques, hunting gear (i.e., bow and arrow) and the increased reliance on cultigens during the Woodland and Mississippian cultural periods may have sufficiently nullified environmental conditions so that drastic adaptational changes in lifestyles were unnecessary. Conversely, population pressure during these times may have been sufficient to dictate adaptational responses to minor environmental fluctuations. In fact, geomorphological investigations conducted at the Haw River sites indicate minor climatic changes occurring at the Late Archaic-Early Woodland transition. This climatic change is characterized by a period of increased warmth and dryness (see Larson in Claggett and Cable 1982:213) reflecting a time when resource spaces were contracting and becoming more geographically dispersed (heterogeneous). Responding to these changes in resource structure, model expectations are that human groups would modify exploitation strategies to compensate for the need to travel greater distances to obtain critical resources. Therefore, if Late Archaic populations exhibit a foraging adaptation, Early Woodland populations may have incorporated a mix of both residential and logistical mobility patterns.



- A 11.68° ET derived from Watt's (1980) climatic reconstruction for the full glacial at Quicksand and Bob Black Ponds, Ga.
- B Beginning of Laurentide Deglaciation (Hare, 1976:504), 14,000yrs. B.P.
- C Attainment of modern hemispheric circulation conditions, 11,000yrs. B.P. (Hare, 1976:510).
- D 14° ET constitutes theoretical threshold where it becomes more secure to rely on plant resources with increasing ET values and more efficient to rely on animal resources with decreasing ET values (see Binford, n.d.).
- E Hypothesized ET value of 15° for allthermal climate optimum estimated to occur around 7000 B.P. in Haw River Site Group area (see Wright, 1976).
- F 5,000 B.P. corresponds to the period of major swamp formation in southeast (see Whitehead, 1972; Watts, 1971 and Wright, 1976).
- G 3,000 B.P. corresponds to the stabilization of the modern coastline.
- H 14.57° ET equals modern value of Moncure, N.C. decline in ET values from points E to F represents Davis' (1976) contention that climate has grown progressively cooler and moister since the climatic optimum.

CULTURAL RESOURCES SURVEY OF PROPOSED RECREATION & WILDLIFE AREAS AT THE B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

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FIGURE 9
HOLOCENE EFFECTIVE
TEMPERATURE GRADIENTS-
HAW RIVER PROJECT AREA

Geographical Aggregates and Archeological Site Patterning

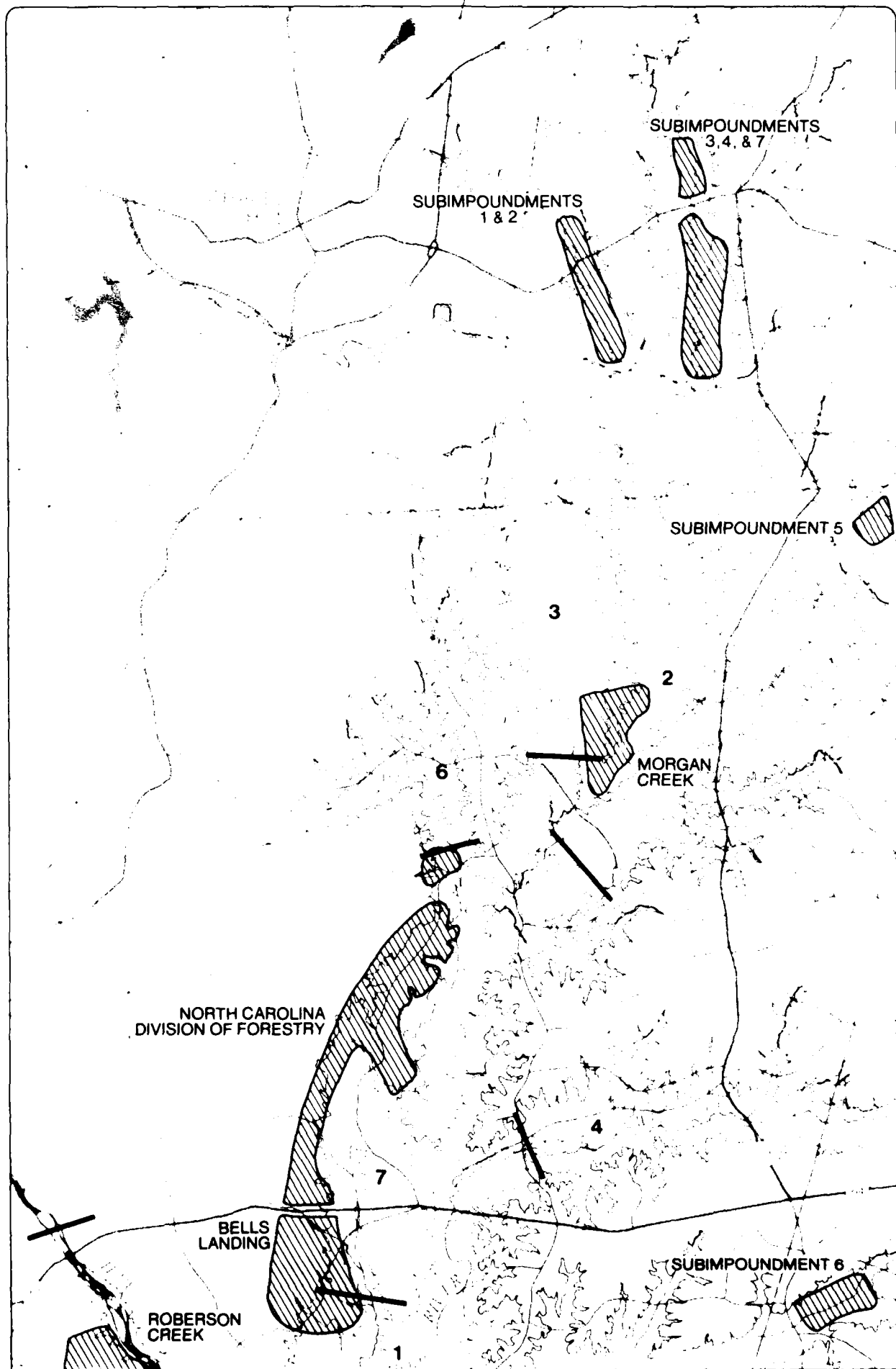
The implementation of the forager-collector model presumes an environmental classification system sensitive to changing land use patterns over time. If research questions are directed toward observing changes in land use for confined areas or particular locations (i.e., archeological sites), it becomes necessary for the proposed classification system to monitor minor fluctuations in the resource structure. At this level, local edaphic conditions affecting the geographical distribution of exploitable resources for any given climatic regime would be critical for understanding the use of a particular location (resource patch). Questions that are raised include what was the patch size during the time of occupation; what is the patch density of the region; how far apart are the patches; and how rich are the resources in the patch compared to other patches? The answers to these questions and others would have measurable effects on the nature and extent human groups could effectively exploit a particular resource patch.

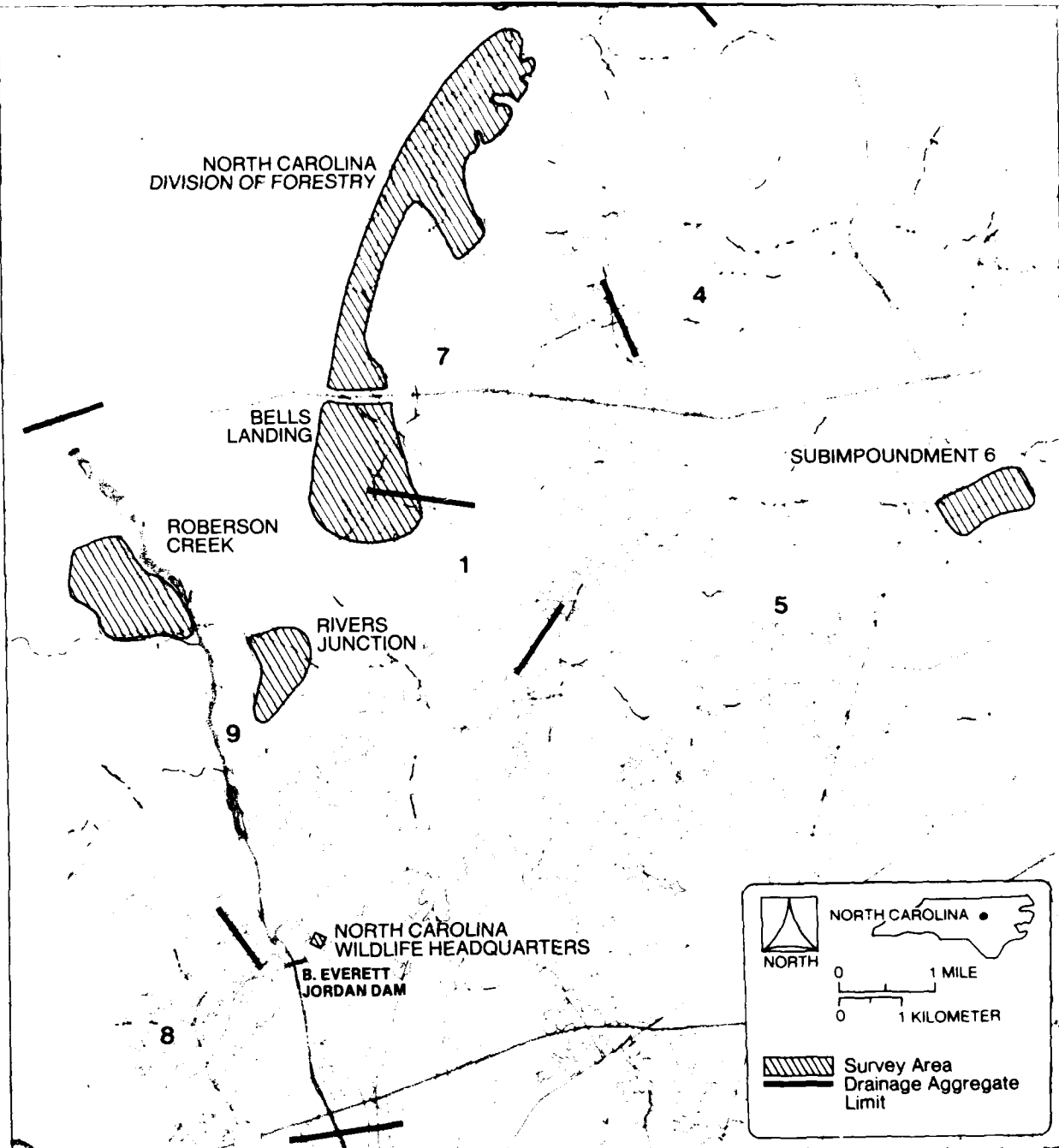
Unfortunately, much of the environmental data which exist for the project area (see Chapter II) is not sufficient for answering questions on such details. Instead, a classification system was adopted which emphasized the potential variability in resource structure covering large environmental zones. These zones, called geographical aggregates, are distinguishable in terms of drainage morphology and landform structure and composition. While this classification system cannot monitor land use variability at the level of each resource patch, it does allow comparisons between particular landform types, T₁, T₂, T₃ terraces and drainages. If climatic conditions over the past 12,000 years have changed as much as paleoecologists (i.e., Watts 1980; Whitehead 1972, 1973; Frey 1951) have suggested and the forager-collector model can be applied to human groups living in the study area (see Cable in Claggett and Cable 1982), then major shifts in land use strategies should be archeologically visible at the level of geographical aggregates over time.

Presented below is a description of the nine geographical aggregates constructed for the project area (see Figure 10).

1. The Lower New Hope River Drainage. This aggregate represents the southern half of the New Hope River Valley. It includes the lands between the B. Everett Jordan Dam site to the south and the Morgan Creek-New Hope River confluence to the north. Landforms associated with this aggregate include the T₀, T₁, T₂, T₃ terraces and overlooking uplands (see Figure 4a and b, this report). The T₃ terrace (discussed in Chapter II, this report) occurs primarily in this aggregate. Within this region, the resources are expected to be plentiful and diverse with both mafic and felsic volcanic lithics available for tool manufacture in the southern half of the aggregate (see Figure 2:7, this report).

2. The Upper New Hope River Drainage. This aggregate represents the northern half of the New Hope River Valley extending from the Morgan Creek-New Hope River confluence in the south to the northernmost reaches of the drainage. Also included in this aggregate are the secondary and tertiary stream drainages (i.e., Northeast, Crooked, Third Fork and Bolin creeks). Principal landforms associated with this region are the undifferentiated floodplains and uplands. The resource structure is simpler than the Lower New Hope River drainage aggregate with fewer landform types represented. Also, metavolcanic rocks do not occur in this region, thereby requiring added effort for tool manufacture. The overflowing of riverbanks and ponding of water for extensive periods of time creates different potentials in resource exploitation strategies, particularly involving aquatic plant and animal species.
3. The Morgan Creek Drainage. This aggregate represents a large tributary located to the north of the New Hope River drainage. Also included in this aggregate is the Cub Creek drainage. Although this aggregate contains a similar landform structure (i.e., undifferentiated floodplains and uplands) as the Upper New Hope River drainage, the headwaters of this aggregate transverse into regions of granitic and felsic metavolcanic rocks. Both of these rock types are known to have been exploited by aboriginal populations and could have been easily accessible at this location. The plant and animal populations are not expected to vary from those found in the Upper New Hope River drainage.
4. The White Oak Creek Drainage. This aggregate represents a large tributary flowing into the New Hope River. Located on the eastern side of the New Hope River drainage, the bedrock in this area consists of undifferentiated sedimentary rocks. Landforms in this region include undifferentiated floodplains at the headwaters with increasing terrace development in the western section of the drainage near its confluence with the New Hope River. The resource structure would vary directly with the presence of particular landforms such that in the headwaters district, overflowing of banks and ponding water would create similar exploitation potentials as those discussed for the Upper New Hope River drainage and Morgan Creek aggregates. Conversely, in the western region of the drainage, where terrace formation occurs, the resource exploitation potential is most similar to the Lower New Hope River aggregate.
5. The Beaver Creek Drainage. This aggregate represents the largest tributary of the New Hope River. Also included in this aggregate is Little Beaver Creek. Located south of White Oak Creek, this aggregate illustrates a similar landform and resource structure as the previous aggregate. However, given the increased size of this drainage, the area of terrace development extends a greater distance up the creek valley.





CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

COMMONWEALTH ASSOCIATES, INC.

FIGURE 10
SURVEY AREAS &
DRAINAGE AGGREGATES

2

6. The Bush Creek Drainage. This aggregate represents a moderately sized tributary of the New Hope River. The drainage is located in the northern section of the Lower New Hope River drainage aggregate. Landforms which occur in this drainage are consistent with other small drainages in the region with little or no terrace development on the narrow floodplain. The headwater region of this aggregate is underlain by granitic and felsic metavolcanic rocks which would have been easily exploited along the valley margins.
7. The Parkers Creek Drainage. This aggregate represents a large tributary of the New Hope River. Located on the west-central side of the Lower New Hope River drainage, this region is composed primarily of the low-lying ridges identified as the T₃ terrace landform (see Chapter II, this report). The resource structure in this area is expected to be complex with a variety of resources present. Also, the low, gently rolling terrain of this location would have provided an excellent vantage point for observation and movement up and down the main river channel. The relatively high, well-drained soils would have provided good locations for the establishment of camps inhabited for extended periods of time. In short, this area represents one of the more optimal locations for resource exploitation in both the Parkers Creek and Lower New Hope River drainages. Other resources such as lithic raw materials were also available for stone tool manufacture in this aggregate.
8. The Kirks Creek Drainage. This aggregate represents a very small tributary of the Haw River. Located west of the B. Everett Jordan Dam site, this creek flows along an old fault zone which exposes large quantities of felsic metavolcanic rocks. Terrace development in this drainage is confined to the area near the Haw River-Kirks Creek confluence. The resource structure of this aggregate is expected to be relatively simple with most of the prehistoric occupations focusing on raw material procurement.
9. The Haw River Drainage. This aggregate represents a small segment (two miles) of the river drainage, located above the B. Everett Jordan Dam site. The resource structure and landforms occurring in this drainage are very complex. Landforms present include T₀, T₁, T₂ and T₃ terraces in the bottomlands and a variety of upland settings. The intensity and variable nature of the occupational history of this aggregate have been documented by the excavation of the Haw River sites (see Claggett and Cable 1982).

Within each of these aggregates, site characteristics including presence of specific cultural components, site size, elevation, landform, soil, distance to nearest water, elevation of nearest water, and stream rank were monitored. In addition to the sites discovered during the present survey, a sample of 186 previously recorded sites was reanalyzed using these criteria. This expanded sample increased the number of identifiable cultural components in the project area and provided information on sites in aggregates not included in the present survey. The results of these investigations are discussed in Chapter VI.

HISTORIC SITES RESEARCH DESIGN

Previous research in the study area viewed historic sites in a cursory fashion. In fact, few exclusively historic sites had been recorded in the area and little was known about them; however, two sites under separate contracts have been tested (Adams et al. 1979; Payne et al. n.d.). Recent archeological research in the Piedmont (e.g., Garrow and White 1980; Taylor and Smith 1978) suggested a high potential for discovery of a variety of historic sites. Patrick Garrow and Max White (1980) recorded a number of homesteads in their survey of the John H. Kerr Reservoir on the Virginia - North Carolina state line; Garrow (1983) reports on excavation of a still dating from the 1940s in northwestern Georgia; Ronald Thomas, Martha Schiek, and Robert F. Hoffman (1981) report on mill sites in Person and Durham Counties, North Carolina; and Richard Taylor and Marion Smith (1978) recorded a range of historic sites including homesteads, farmsteads, plantations, mills, and cemeteries. Based on this archeological data, as well as research in history, geography, geology, and ecology, a model of historical site patterning in the Piedmont was developed. It bears similarities to Lewis' (1976:13-16) Frontier model; however, emphasis is placed upon the parameters that constitute the settlement model in this particular geographical area. It shall be argued that some of the recreation and development areas surveyed during the 1982 season correlated with areas of high potential for discovery of historic sites of the nineteenth century.

This settlement model was developed in a holistic fashion, drawing from a variety of disciplines. While much of the basis of the model is rooted in historical research, certain aspects have been supplemented by research of scholars in other disciplines, in an effort to provide a balanced and well supported foundation and framework from which to develop interpretation and theoretical discussions of the data base.

General Development of the Historic Settlement Model

Frontier and settlement studies have been the focus of much research (Billington 1960; Kristof 1959; Sauer 1969). As the subject reflects a diachronic process rather than a synchronic or short-term event, these studies are generally presented on a large scale. Billington (1960) in his discussion of the American frontier, or settlement of the entire 48 contiguous states develops a hypothesis, but detail must be sacrificed to cover such a broad topic. Carl O. Sauer (1969), a cultural geographer, examined the early Spanish colonization of the southeastern states from South Carolina to Florida. Emphasis here was placed on the New World Spanish Empire in a holistic framework rather than on a site specific framework.

The question of interest is why do people settle where they do? Why are historic sites found in particular locations? Can site locations be predicted?

Over the past ten years prehistoric archeologists have been wrestling with this issue. David H. Thomas (1971) in his examination of settlement patterns in central Nevada emphasized relationships to environmental zones and features, as did George Gumerman (1971) and Ezra Zubrow (1976) in their research in the Southwest. Environmental data and anthropological data, particularly ethnographic and/or ethnoarcheological studies have been the cornerstone of such research. The historic archeologist, however, has much more information to use in constructing models of settlement development. Early maps and census records may be utilized to illustrate change through time. We shall turn now to a discussion of variables influencing settlement and their interrelationships.

Billington (1960:3), in his hypothesis, argues that the frontier may be viewed from an evolutionary perspective:

as a series of contiguous westward-migrating zones, each representing a different stage in the development of society from elemental to complex forms. As the westward movement gained momentum, a standardized zonal pattern developed which, although varying slightly with time and place, remained largely consistent until the continent was occupied.

These series of zones consisted of settlers of different natures beginning with fur traders and including some or all of the following dependent upon local conditions: cattlemen, miners, pioneer farmers, equipped farmers and finally specialists such as merchants. Similarly, Mescott (1965:36-45) argues that settlement may be viewed as zones.

Geographical modeling of spatial diffusion (Cliff et al. 1981) examines movement of phenomena in a fashion similar to Billington's zones. Spatial diffusion (Cliff et al. 1981:6) may be grouped into two types: expansion (contagious and hierarchial) that includes the spread of information and material from one region to another by direct contact, and relocation that involves the actual movement of items from their original area to a new area, such as population movements. Torsten Hägerstrand (1953), a Swedish geographer argued that contagious adaptation could be viewed as a four-stage model involving the passage of innovation or diffusion waves. The primary wave is the start of the diffusion process when strong differences exist between the spatial areas: the diffusion wave that begins the actual spread of the process; the condensing wave that encompasses increasing acceptance of the information being diffused; and finally, the saturation wave that signals completion of the diffusion process. With the development of his Monte Carlo diffusion model, Hägerstrand (1953, 1967) was one of the first geographers to advocate mathematical modeling of the diffusion process. Hindrances and aids could be measured to determine their effect on the diffusion waves.

Processual similarities exist in the ecological literature. Joseph Grinnell (1917) was one of the first ecologists to develop the niche concept, a combination of how individuals utilize space and resources (Pianka 1978:185-187). Robert MacArthur (1972:77-91) examines colonization of new territories and niche

development by founder populations, the first species to enter an area. Founders must be able to adapt to their new environment and successfully compete for resources when the need arises.

These three examples from history, geography, and ecology demonstrate the similarity in process when a new item (an idea, a person, an animal, or invention) breaks new ground and adapts to a new region. In fact, Hudson (1969) in his theory of rural settlement argues that colonization is based on an ecological model involving spread and competition for resources. Initial settlement or colonization processes may be viewed as waves, radiating like ripples from a pebble tossed into water. A series of waves will pass over any one point in space given enough time. In the Carolinas the coastal areas were settled first, the initial wave. Over time this wave moved westward, inland towards the Piedmont, later reaching the Appalachians.

Certain environmental variables or parameters play a fundamental role as barriers to, or corridors for these waves. Waterways are fundamental to settlement; their historical (e.g., Mumford 1961:55-57, 71) and archeological (e.g., Binford 1978:256) importance has long been recognized. Early settlements in the southeast including St. Augustine, Fort Fredrica, and Charles Towne were located adjacent to major drainages. The first plantations, dependent upon elaborate irrigation systems (Clifton 1970), were located similarly along major drainages including the Altamaha, Ashley, Cooper, Pee Dee, and Cape Fear rivers. They served as major transportation networks for both goods and people. Early settlement in North Carolina centered along the coastal region of the Albemarle and the lower Cape Fear; however,

By 1740, a few families settled in the Piedmont along the Eno and Haw rivers and before the end of the decade other families moved west of the Yadkin River (Robinson 1979:176).

Adjacent to rivers was prime bottomland that the first settlers into an area eagerly embraced (Phifer 1962; Rubin 1951).

However, rivers could also serve as barriers to settlement. Rivers needed to be crossed, and if there was neither capital nor demand, ferries and bridges did not exist. Complicating this problem was North Carolina's decentralized method of having county courts, rather than the colonial government, issue ferry permits. In the study area during the end of the eighteenth century (Clay et al. 1975:Figure 1.8) a road ran from Cumberland (present day Fayetteville) along the west side of the Haw River until it crossed the river north of Pittsboro and went on to Chapel Hill. This was one of the few crossings of the Haw River in the study area and thus was a focal point in early historic settlement of the region.

Topography, often related to geomorphology and drainage patterns, also influences settlement. Robert Mitchell (1972:474) in his analysis of settlement in the Shenandoah Valley of Virginia traces landholdings in the rich valley bottoms in the colonial period. Average landholding size decreased as absentee planters accumulated larger landholdings. The bottomlands and rolling hill situations were generally well suited to agricultural developments and did not erode as quickly as

soils on steep slopes and ridges (Trimble 1974). Geological features, such as bedrock outcrops in the uplands, may also hamper settlement.

Soil types can play an important role in site selection processes. Soils derived from weathered bedrock materials and local vegetation are classified by these characteristics (Bunting 1967). Catenas are groups of soils having similar parent materials that vary with regard to topography: upland, slope, and bottomland soils. Varying rates of soil formation in different topographic settings may affect settlement. Duffield (1970) has argued that settlement in Texas was hampered by vertisols, soils with a high clay content and numerous large cracks, the result of wet and dry episodes.

Vegetation resources are critical in a frontier setting, providing food, fuel and building materials. Differing vegetation communities provided various assets and deficits to early settlers. Swamps and marshes, generally unfavorable habitats, were exploited by early coastal rice planters. Other communities, such as oak hickory forests, provided numerous resources, including forage for livestock.

Besides environmental conditions, cultural variables (Hagget 1966:94) such as political boundaries affected settlement processes (Kristof 1959:276; Prescott 1965). In Georgia, for example, James Oglethorpe and the trustees

To discourage the growth of large plantations and provide for compact settlement for defense, land grants were limited to 500 acres per person and slavery was prohibited (Robinson 1979:181).

Roads are a cultural factor that influences settlements. These networks (Haggett 1966:61-70) are built with considerations of topography, minimum distance, and political boundaries in mind. Consequently, transportation networks can influence the development of communities and often structure settlement at the farmstead level.

The rectilinear township and range system developed for surveying the American West and the Homestead Act of 1862 caused the quarter section to become an important aspect of settlement. In an analysis of mid-nineteenth century land acquisition in Minnesota, Johnson (1957) demonstrated relationships between quarter sections, soils, and transportation routes. In Kansas, Kollmorgen and Jenks (1951) illustrated a relationship between quarter section farmsteads and highways. Merle Prunty (1955) traces the evolution of plantations in America after the Civil War in which the large plantations became fragmented, having numerous landholders or tenant residences, or large consolidated farms. Either alternative was influenced by road networks. Alternatively, consolidation of European farms was hampered by the lack of accessible transportation routes (Chisholm 1973:116-117).

Ethnohistoric Data From the Piedmont Region of North Carolina

Primitive methods of cultivation with crude tools and with little fertilization or conservation of the soil, lack of adequate land and water transportation to markets, and high prices of necessary articles which could not be produced on the farm - all these resulted in soil exhaustion, low per capita wealth and income. . . , a low standard of living, and a reputation and a condition of extreme backwardness. Without profitable staple crops and adequate water outlets to markets, the Mountain and Piedmont areas had little trade, few slaves, and a small-farm subsistence economy based on free white labor and the production of corn, wheat, fruits, cattle, hogs, and whiskey (Lefler and Newsome 1973:315).

This rather grim assessment of life in the study area is perhaps slightly exaggerated and overgeneralized; however the trends are certainly apparent. Settlement of Chatham County has been relatively low from its inception (Hadley et al. 1976). Transportation networks were never very well developed. As early as the eighteenth century the major thoroughfare from Chapel Hill to Cumberland (present day Fayetteville) ran along the west side of the Haw River, consequently traffic and trade that was not along the river would of necessity be directed westward. In 1778 (Hadley et al. 1976) the county courthouse and Pittsboro were established along this route. In the late 1700s only one major road traversed the region; however, by 1870 a number of roads had been built with several crossing the Haw River and most connected in some manner to the major crossroads through Pittsboro (see Exhibit 1, this report).

As early as 1740 homesteaders were settling along the Haw River (Robinson 1979:176). The pattern for the first pioneers to settle in the prime locations of drainage basins was apparent in the Piedmont. Phifer (1962:140) in his examination of slavery and settlement patterns in Burke County observed:

The largest, flattest richest land areas lay in crochets between two or even three larger streams or up the broad river valleys which ordinarily existed for only a few miles above the mouths. The largest slaveholders had their plantations located on these rich alluvial deltas at the juncture between two major streams. . . . Slaveowners with moderate holdings were also distributed along these major streams but not at the mouth, although most were situated at a point where a branch entered a major stream. Small slaveholders occupied the land along smaller streams, not at junctures, and the nonslaveholders had to be content with narrow bottoms high up on the creeks or with upland which was unsuited for serious farming.

In another area of the Piedmont, Rubin (1951:52) observed the plight of the small farmer who was forced to settle on the clay hill region and branch heads far from the major drainages after the river and creek bottomlands were settled by planters. The disadvantages in soil fertility and distance to port hampered the success of the small farmer, who was often in a perpetual state of debt. Journey et al. (1937:7) argue that all but the steepest slopes were farmed and that:

A common practice was to farm the land until the natural fertility was exhausted through cropping and subsequent erosion of the surface soil, and, when the production of crops was no longer profitable, the land was abandoned, and forested land was cleared for crop use.

The 1850 census reports 1633 farms in Chatham County having 139,563 improved acres and 309,631 unimproved acres for a ratio of 1:2.23. Hart (1968:420) observed that, generally, southern farmland was between one quarter to half, and sometimes more than half, wooded, so Chatham County would be at the high end of the spectrum with regard to the ratio of improved to wooded land. Acreage of major crops in Chatham County, including corn, wheat, cotton, oats, and sweet potatoes, dropped from 1879 to 1929, with some increase in 1934, while tobacco, hay, and forage increased through time (Jurney et al. 1937:7). The increase in hay and forage acreage from 67 in 1879 to 8061 in 1934 suggests a dramatic increase in fallow acreage. Cropland was not always abandoned; sometimes crop rotation was practiced. Secondary growth in the abandonment process of agricultural land began with broomsedge, briars and sumac, followed by pines and cedars, and finally some hardwoods; after several decades the land was ready to be cleared again (Hart 1968:421).

Iron foundry mining activities were conducted in the county from the late eighteenth to the twentieth century. Most of these efforts were concentrated in the southern part of the county near the Deep River (Hadley et al. 1976:372-378; Reinemund 1955:87-94). Coal was mined at the Cumnock mine from the early 1800s for use in the local area; however, in 1850 a private company undertook construction of a series of locks and dams along the Deep River and coal production increased in anticipation of an improved transportation network. The state took over the construction on the Deep River, but the Civil War effort, bad weather and subsequent damage to the dams hampered use of the navigation way for coal transport (Reinemund 1955:89). Consequently the dams were used to power gristmills, and railroads were built, allowing for the transport of coal. Thus while some mining was conducted in the county, it was south of the study area; its development was fortuitous, dependent upon geological condition. Since the mines were not particularly large producers it is doubtful that they employed numbers of nonresident miners, as did gold rush phenomena that were accelerated by waves of miners (e.g., Billington 1960).

An examination of the study area in the framework of the settlement model would lead us to expect evidence of early trading posts, small to medium sized farmsteads in the higher elevations, and larger farmsteads and plantations along or near the terraces and bottomlands of the larger drainages. We would expect several waves of farmers of different types; however, since mines were not in the study area industrial sites of this type would not be expected, although mill and ferry sites would be anticipated adjacent to major drainages. Since landholders and farms would be the major site type expected, socioeconomic data on various farmers are discussed below.

Socioeconomic Profiles of Social Classes in the Piedmont

Historical research allows profiles of different socioeconomic classes to be developed from which archeological site expectations may be made. Due to the

age of the Mason House and other sites in the vicinity, emphasis will be placed on the antebellum period.

Environmental and cultural variables play a crucial role in settlement, and as discussed above, influence socioeconomic patterns in the study area. Socioeconomic interpretation of the historic sites discovered during the Jordan survey are dependent upon inferences based upon historical research. Determination of socioeconomic classes depends upon a number of attributes; however, information about housing, site structure, subsistence activities, and diet are critical because these types of data may be recovered from the archeological record. Consequently, the following discussion will focus on historical evidence of these data for yeomen, planters, and slaves in the Piedmont.

While North Carolina ranked high as a slaveholding state, the Seventh Census reported that 67 percent of the slaveholders in the state held nine or fewer slaves and 38 percent held fewer than five slaves. In 1860 Chatham County had between five and ten slaves per square mile (Taylor 1926) so it ranked at the upper end of the moderate slaveholding counties in the state. Population distributions for the county from 1840, 1850 and 1860 demonstrate that the slave population remained at about 32 percent of the total population. Manufacturing and agricultural census information demonstrates that most laborers were farmers. An examination of the Individual Census of 1850 and 1860 of free white inhabitants for the county reported a high number of farmers with a few coopers, blacksmiths, merchants, innkeepers, and seamstresses, one of the few tasks noted for women besides domestic and housewife. In 1850 pigs (41,165), sheep (14,765), and cattle (14,892) were raised in substantial numbers.

The largest social class in Chatham County was probably the yeoman or small to moderate farmer who raised enough agricultural product to feed his family and still have some to sell.

James Bennitt, a yeoman who lived northeast of Chatham County near Durham, gained a place in history on April 17, 1865 when Union General William T. Sherman met with Confederate General Joseph E. Johnston at Bennitt's home to negotiate terms of surrender. Johnston described it as a "nice farm":

The grounds, primarily covered by a fine green lawn, contained a few flowers, some shrubbery, a number of diminutive cherry trees then in full bloom, a house, a kitchen, and a smokehouse (Menius 1981:305).

The frame house was unpainted and consisted of a main room, attic, and shed which was divided into two parts. Sherman Menius (1981:305) wrote:

The house, however, was scrupulously neat, the floors scrubbed to a milky whiteness, the bed in one room very neatly made up, and the few articles of furniture in the room arranged with neatness and taste.

During the 1830s Bennitt was an unsuccessful defendant in at least 20 suits for debt, until he managed to mortgage his 40 acre Chatham County

inheritance. In 1846 Bennitt bought his farm which took eight years to pay off. He never owned any slaves, apparently working the land with the help of his sons. His inventory of farm tools included a grub hoe, axe, cotton combs, spinning wheel, shovel, one-half-inch auger, two pairs of tongs, iron wedge, mattock, manure fork, claw hammer, scythes, wheelbarrow, and loom. Bennitt spent money having his tools repaired at a blacksmith's shop; however, he developed revenue by building a wagon which he used for hauling and other chores. The family made clothing and shoes for themselves as well as for sale (Menius 1981:312). Thus Bennitt, a nonslave holding yeoman, lived in a simple frame house with two outbuildings. He earned little cash so was unable to afford many luxury goods, owning only the basic necessities.

A contrasting picture is available in a profile of a slaveholding yeoman, Judge William Horn Battle. In 1843 the Battles, with their six children, moved into a four-acre home beside the University of North Carolina campus in Chapel Hill. The property was fenced and included a house, outbuildings (stables, smokehouse, corncrib, slave cabins, and bathhouse), fruit and shade trees, and a vegetable garden, as well as space for livestock (Gass 1975:381). Their house was small, having a parlor and bedroom downstairs and a dining room in an adjacent building. With the aid of Harry, one of their slaves who was a carpenter, they built a new home and office for the Judge, a law professor at the University. A successful well was dug in 1847 that served for eight years until a spring was located in the garden area. Also in 1847, President James K. Polk, an alumnus of the University (Gass 1975:384), was entertained by the Battles. Although university students were charged \$50 to \$60 a semester for boarding with the Battles, before President Polk's visit Mrs. Battle

nagged her husband to replace her old fashioned white table china with the light blue porcelain then in vogue, declaring that 'every man, woman, and child on the lot' knew that for want of proper chinaware she had not been able to set a decent table for five or six years past, especially at commencement (Gass 1975:384).

At this time they bought a wine decanter and a tin, padlocked poundcake box from Fayetteville. Mrs. Battle sometimes bought clothing for herself as well as men's coats in Raleigh, while she and the slave ladies made "shirts, pants, and under-clothing" (Gass 1975:389) and linens. Candles and other manufactured goods were bought or ordered from Raleigh or Fayetteville.

While managing a small farm Judge Battle earned enough money so that he was able to maintain a large home with a number of dependencies and hire skilled slaves. This income was high enough so that luxury goods and clothing could be purchased nearby or from distant markets.

Gray (1933:483) argues that commercial farmers, lowland farmers, or yeomen were intermediate between the planters and the poor whites and

enjoyed more material comforts than any other class in the South, except large commercial planters. Their houses were comfortable frame or brick structures. They built commodious barns, raised hay and forage, practiced stall-feeding in winter, paid some attention to breeding; and consequently produced an abundance of meat, milk, and butter. Orchards and gardens furnished a variety of fruits and vegetables, and the proceeds from sale of livestock and crops enabled them to purchase many comforts . . . Ownership of a few slaves brought relief from drudgery, but a great increase in responsibility.

He continues, suggesting that the yeomen, particularly those that held slaves, were similar in many respects to the small slaveholders. In fact, they were distinguished on the basis of their agricultural pursuits.

The slave holders of the commercial farming group resembled in many respects the middle-class planters...but since the former were engaged in a diversified economy rather than a one-crop system they maintained a more comfortable type of existence than that of the middle-class planters.

Gray (1933:492) describes the planter class as the most heterogeneous social class. It has been argued that Ulrich B. Phillips' American Negro Slavery (1918) focusing on large slaveholders presented a biased view of the planter class (Hofstader 1944; Pease 1969). Black historians (Smith 1980), found Phillip's work distasteful and argued that he was perpetuating racist ideology of the antebellum period. Other critics question Phillips' sampling procedures as well as his assumptions about patterns of conspicuous consumption among various classes of planters.

The Plutocratic planter class (Gray 1933:495-497) was often opposed to the well educated, older aristocrats. They were the new rich, the "self-made planter who had forced his way upward from the ranks of overseers or small farmers." These were monocrop agriculturalists, focusing on cotton. They were often in debt as they were continually buying the most fashionable material goods.

Upper class planters (Gray 1933:497-498) were more the traditional aristocrats participating in state and national politics. Generally well educated, they had fine homes on their plantations as well as urban townhouses. Overseers were used most frequently by this class as some of the planters were absent from the plantation several months or perhaps the entire year.

By 1860, one of the wealthiest upper class planters in North Carolina was Paul Cameron, who owned over 1000 slaves near Durham (Escott 1980:181). His grandfather, Richard Bennehan (1743-1825), was a Virginian tobacco planter of Irish origin who settled in Orange County in 1768 (Williams 1975:190). Bennehan's daughter, Rebecca, married Duncan Cameron, and the plantation came to be known by that name. Cameron's slave cabins were unusual in being two-storied with brick chimneys on both ends. They were raised on stone foundations and had wooden floors.

They were unusually substantial dwellings of heavy timber-frame construction, nollod with birch, were probably erected during the 1850s when Paul Cameron, son of Duncan and Rebecca Bennehan Cameron, undertook an ambitious building and improvement campaign at Stagville (Escott 1980:182).

Finally there are the middle class and small planters, the numerical majority. They lived on their plantation, sometimes employing overseers.

These planters had little time for luxurious or ostentatious living or systemic self-indulgence . . . At best, their manner of living was comfortable; at worst, it was slovenly, careless, and comfortless. At best, the houses were large, airy, comfortable, with glass windows and ample verandas. Their comforts were supplemented by a dairy, and orchard, and a well-kept garden. At worst, the house was an enlarged log cabin, dirty and full of flies and mosquitoes; the food a dreary monotony of bacon, "corn-pone" hominy and coffee (Gray 1933:499).

For example, when Sarah Hicks Williams arrived at her husband's 2000-acre, 37-slave plantation she discovered a five room structure of hewn logs. Hofstadter (1944:115) notes that in 1860 97 percent of all slaveholders owned less than 50 slaves, while only 312 held over 200 slaves.

Free white agricultural laborers made up another class (Gray 1933:500-501). Slave narratives (Rawick 1976) from North Carolina illustrate that planters and farmers hired white laborers who worked with slaves in the fields.

Overseers were a small class, numbering only 18,859 in 1850 (Gray 1933:501). Because holdings in North Carolina were small compared to some in South Carolina and Georgia, it is not expected that overseers were the norm in the study area. Phifer (1962:139) explains:

the farmer lived in close relationship to his "black family," often worked in the fields with them, and knew them intimately.

Thus, there was little need for an overseer.

In Chatham County free negroes composed about two percent of the population, higher than the state's average. They filled a variety of niches including craftsmen, educators, and farmers (Taylor 1920). For example, John Chavis (1763-1838) was a minister and educator (Hudson 1979). For 23 years he operated schools for white and negro students in Chatham, Granville, Orange and Wake Counties.

Slaves are the final class, constituting another diverse group. (Taylor 1926; Johnson 1937; and Genovese 1976). Slave positions included drivers, field laborers, domestics, cooks, carriage drivers, craftsmen, factory laborers, and miners. Their jobs and living conditions were related directly to their owners'. Since wooden structures are the rule in the Piedmont, it is important to realize

that wooden slave quarters varied. Jane Lassiter, who lived in Chatham County and belonged to Dr. Kit Council (Rawick (1976:39) recalled:

We lived in little ole log houses. We called em cabins. They had stick an' dirt chimleys wid one door to de house an' one window. It shet to lak a door.

Elias Thomas, also born in Chatham County, reported that the master's home had six rooms and that the slave quarters were "arranged like streets about two hundred yards on the north side of the great house," (Rawick 1976:344). Some had dirt floors while others had wooden floors. The example of Cameron's Stagville two-story quarters appears quite unusual compared to the single or double pen slave cabins.

Antebellum Diet in the Piedmont

Sam Hilliard's (1972) study of food supply in the South is perhaps one of the most detailed. Although he argues that pork and corn were the staples during this period, they were supplemented with a variety of cultivated foods, garden vegetables, and livestock as well as wild foods. Travelers' accounts show that meals ranged from cornbread and ham to feasts with a variety of meats, vegetables, and fruit. Planters and landholders frequently ate game animals, including deer, rabbit, squirrel, turkey, quail, fish and clams (Hilliard 1972).

In James Bennitt's yeoman household corn, the staple crop, was eaten

on the cob, creamed, and roasted, or as bread, grits, hominy mush, succotash, and whiskey. It provided shucks and fodder for the livestock and was used to fatten pigs before slaughter (Hilliard 1972).

Their diet was supplemented by peas and muskmelons grown on the farm. Bennitt sold excess corn, oats, wheat, irish potatoes, sweet potatoes, and tobacco. He raised cotton until, after buying his own farm, he switched to food crops. Mrs. Bennitt tended the garden vegetables, including cucumbers, onions, turnips, and squash, as well as cherry and apple trees.

Some Piedmont yeomen and planters raised livestock. Their overhead costs were reduced by allowing the livestock to forage on mast in wooded areas. However, some people felt that a mast diet imparted a strange flavor to pork. For example, Mrs. Battle preferred pigs raised on corn as opposed to acorns and forest forage. The Battles slaughtered pigs on the farm, and smoked hams or made sausage. In January 1858 he wrote to her husband.

You would have been amused at the joy shown by our servants when the pork arrived . . . They were so tired of beef (Gass 1975:389).

Although they kept some cows for milk and butter they slaughtered few, rather buying beef in Chapel Hill. Besides pork and beef

chickens, turkeys, wild fowls, and fish - of which last item Mrs. Battle was especially fond - found their way to her table, mostly from her own lot or the surrounding field, woods, and streams. Such staples as sugar, coffee, and molasses were bought at retail in the local stores or else ordered in quantity from Fayetteville or Raleigh (Gass 1975:389).

This demonstrates that yeoman families raised and smoked pork, and cultivated a variety of crops and garden vegetables. When supplies ran low they were supplemented by foodstuffs bought in town or from neighbors. Items that were not grown on the farm, such as sugar, salt, and molasses, similarly had to be bought.

Slave narratives from Chatham and adjacent counties also provide information about slave diet (Rawick 1976). Jane Lassiter (Rawick 1976:39) recalls:

The slaves caught game sometime an' et it in de cabins, but dere was not much time fer huntin' dere was so much work to do.

There are recollections of hunting possum (Rawick 1976:57, 185, 273), raccoon (p. 185), squirrel, turkey (p. 225), fish (p. 273), and other game. Julius Nelson (Rawick 1976:145) remembered:

Dar wus big pnoes o' corn bread all de year roun' an' whole sides o' meat, an' on New Yesrs' Day hogshead an' peas.

Fur supper we ginely had pot licker, lef from dinner, 'taters maybe an' some sweetnin'. Dar wus ash cake fur supper an' breakfas most o' de time an' hominy, which de marster had grown hisself. De smart nigger et a heap o' possums an' coons, dar bein' plenty o' dem an' rabbits an' squirrels in abundance.

John Smith of Wake County explained (Rawick 1976:277):

Dey caught rabbits in gums, birds in traps an' hunted possums wid dogs at night. Dere was not much time for fishin' cept at lay-by time.

Ellas Thomas of Chatham County reported (Rawick 1976:344):

The old slaves had patches they tended, and sold what they made and had the money it bought. Everybody eat out of the big garden, both white and black alike. Ole missus wouldn't allow us to eat rabbits but she let us catch and eat possums. . . Sometimes we caught fish with hook in Haw River, Deep River, and the Cape Fear, and when it was a day time and the water got low we caught fish in seines.

Application of the Historic Settlement Model to the Study Area

The present research sought to correlate the factors discussed above in the general development of the historic settlement model with the recovery of historic site material culture in the study area. The variables considered were: 1) environmental: soil productivity; 2) environmental and cultural: proximity to major rivers or streams which provided at least seasonal transportation to regional markets, and 3) cultural: proximity to principal roads which provided access to county seat and regional markets. Briefly, it was predicted that the lands first settled and subsequently occupied with the highest level of socioeconomic stratification would be those with the highest soil productivity and the closest access to river transportation. The next level of occupance in terms of chronology and socioeconomic status was predicted to occur on land of high soil productivity and in close proximity to principal roads. Conversely, it was predicted that lands of low soil productivity and distant from natural or manmade transportation routes would be the last settled and would be associated with the lowest socioeconomic status.

Conclusions

The model of early historic settlement presented above is based on previous historic archeological investigations as well as research in history, geography, geology and ecology. The model presumes that humans behave rationally when selecting home site locations, given the available resource structure of a region. Both cultural and environmental variables were identified as important factors that influence settlement strategies. Cultural variables which need to be considered include political boundaries and legislation that may either aid or impede the settlement of a region. For instance, the Homestead Act of 1862 greatly increased the speed and density of settlement in regions of the western United States in comparison to what would normally have occurred given natural migrations of settlers moving into a region. Also the development and maintenance of transportation networks is an important factor influencing settlement strategies. Successful settlement of a region depended heavily on the movement of goods and services into and out of local regional distribution centers.

Environmental variables such as river systems (which also serve as transportation networks), local topographic conditions, available soil types and vegetation resources were also identified in the model as important factors influencing early settlement strategies. Previous research conducted in a number of disciplines has demonstrated that early settlement of regions was located along major river systems for two reasons. First, the river provided the most efficient and in a majority of instances the only transportation network available for people to gain access to a region. Second, the river valley and its associated alluvial terraces were ideal locations for the establishment of farmsteads geared to the production of foodstuffs. Another important aspect of the model are the

implications for rank ordering of the landscape in terms of productivity. Settlers moving into an area would select the best possible locations for settlement. Gradually, prime locations were exhausted, resulting in later settlers moving onto lands less desirable in terms of the cultural and environmental variables described above. While settlers choose the best available lands for food production, research conducted by cultural geographers indicates that individuals often constructed homesites on lands adjacent to areas of highest productivity. This is in response to the need to conserve high productivity areas for garden plots and not "waste" this land on homesites. Frequently, homesites were constructed on nearby upland locations to reduce the cost of traveling back and forth from the gardens and eliminate the chance of being flooded during periods of high water.

CHAPTER V

METHODOLOGY

INTRODUCTION

The goal of the survey plan was to locate and evaluate cultural resources within the potential impact zones. Previous research in the area indicated two problems had to be overcome before this task could be successfully completed. First, the survey plan had to include a strategy for data recovery in densely vegetated areas and regions of varying topography. In other words, this plan had to provide an efficient means for the systematic coverage of all impacted lands regardless of ground surface visibility and slope. Second, the survey plan had to include a strategy for assessing site characteristics such as depth of cultural deposit, site size, artifact density, etc. Faced with these realizations, the survey strategy, as described below, was implemented to maximize the quality and quantity of information resulting from the fieldwork phase of the B. Everett Jordan Dam and Lake survey.

LOGISTICAL ASPECTS OF THE SURVEY

Prior to the fieldwork operations, a library and records search was conducted at the University of North Carolina Anthropology Laboratory in Chapel Hill and the Department of Archives and History Division Archeology Branch in Raleigh. Information pertaining to archeological site locations, historic sites and standing structures recorded during previous surveys in the study area was compiled and transferred to project maps provided by the Corps of Engineers. Also, previous contract reports were reviewed to provide the necessary background for completion of the final report.

The actual fieldwork was conducted by a four-person crew from July 1, 1982, through August 6, 1982. Two teams of two individuals were assigned the responsibility of surveying particular recreation development and subimpoundment areas. However, due to unforeseen circumstances such as dense vegetation, difficulty in gaining access to remote areas, local topography and overall size of the area to be surveyed required that on occasion both teams work in the same recreation development or subimpoundment area.

Each survey crew was furnished with the following equipment while conducting surveys:

1. Vehicle: At various times the following vehicles were used: a 1977 Chevrolet Blazer with four wheel drive automatic transmission and a Toyota Corolla with automatic transmission.
2. Safety: Each crew had at its immediate disposal a Johnson and Johnson Family first aid kit; a Johnson and Johnson Industrial first aid kit was also available, as well as Cutter Laboratories snake bite kits.

3. Recording forms: Sample unit forms, site forms, site coding manuals, excavation square level forms, feature forms, tables showing acreages and distances, photostat copies of illustrations illustrating diagnostic artifacts recovered in the project vicinity, random number tables, photograph forms and field notebooks were carried.
4. Photographic equipment: A Cannon FTB and a Pentax K.1000 were used during the course of the survey.
5. Locational Aides: A Suunto WE-40 compass, Corps of Engineers maps of the proposed recreation and development areas and the wildlife subimpoundments. Also, USGS quad maps were employed to facilitate location of survey units and on-the-ground locations for site recording information.
6. Subsurface testing: shovels, trowels and hand-held screens with 1/4 inch mesh were used to test for sites in areas of dense surface vegetation and screening of back dirt from 1 x 1 meter excavation units.
7. Collection aids: ziplock heavy duty plastic bags, surveyors flags, flagging tape, clip boards, and 50 meter tapes and chaining pins. were used for collection and mapping purposes.
8. Water and food stored in coolers.
9. Packs: Two rucksacks were used to carry most of the small equipment.

THE SURVEY

The methods implemented during the fieldwork phase of the B. Everett Jordan survey reflect a consideration of past experience in Piedmont archeology (Cable and Cantley 1978; Claggett 1981) and previous research conducted in the Jordan Dam and Lake area (Newkirk 1979; Cable 1981; Claggett and Cable 1982). This work has resulted in the accumulation of knowledge regarding site formation, preservation and destructive processes directly related to local geology, soil, rainfall, vegetation, cultivation and erosion patterns. Environmental factors have received serious study in the last decade (Timble 1974, 1977, n.d.), but only recently have archeologists working in the Piedmont (Coe 1964; Taylor and Smith 1978; Goodyear et al. 1979; House and Ballenger 1976; Claggett 1981) begun to utilize this information. Based on the environmental parameters present in the study area and information gained from previous research in the area, the field methodology minimized those strategies involving the discovery of deeply-buried sites or those having intact features and maximized the systematic coverage of large forested areas.

The principal method of inspection in all proposed subimpoundments and recreational development areas (henceforth called survey items; see Figure 1) was a pedestrian survey, augmented by shovel test transects. The survey procedure was by forming a skirmish line with individuals spaced at predetermined intervals.

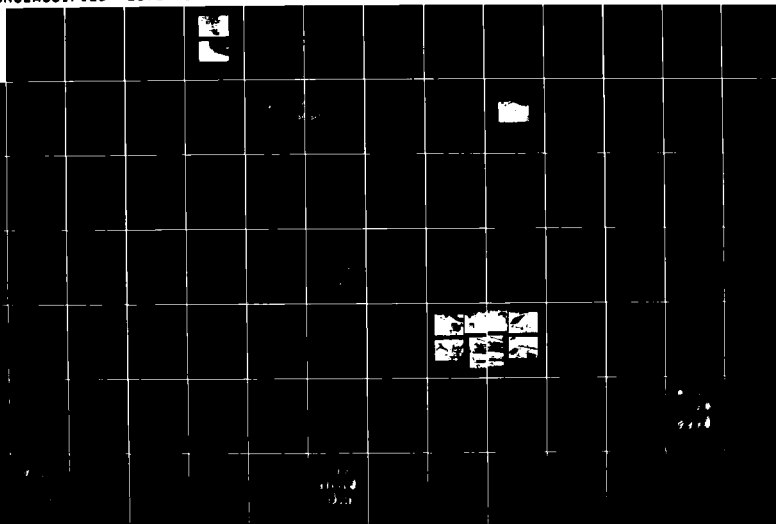
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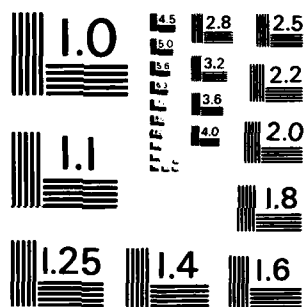
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line advanced using compass bearings as a guide from a known location (a road bisecting a survey item or a bridge crossing) along linear transects until the length of the survey item had been traversed. At this point the skirmish line would shift over and the procedure was repeated until the entire item was covered.

The transect intervals and the spacing of the shovel test units varied according to local topographic, and moisture conditions. Those areas located on relatively flat well-drained soils were labeled as high intensity areas while areas of greater topographic relief and varying moisture conditions were labeled as moderate intensity regions. Areas labeled as low intensity consisted of low swamp lands subject to periodic flooding and standing water. Areas of high topographic relief were also included in this level of survey intensity.

In areas selected for high intensity survey, crew members proceeded along regularly spaced 20 m transects, with 30 cm shovel tests placed every 50 m. Moderate intensity survey coverage was along transects spaced 35 m apart, with shovel tests located every 65 m. Low intensity survey coverage entailed the use of 100 m transect intervals, with shovel tests every 60 m. Both transect spacing and the interval between shovel tests were reduced in areas with a high potential for yielding cultural resources. The amount of land subjected to the various levels of survey intensity for each of the survey items during the fieldwork phase is summarized in Table 3.

In addition to the shovel tests, other forms of data recovery operations were performed in the survey items. In areas of dense vegetation, all historic dirt roads and adjacent areas (see Figure 11a) were inspected for the presence of intersecting roads and historic structures. The roads usually provided good to moderate ground surface visibility and served as linear transects through the vegetation. This particular method was responsible for the discovery of numerous homesites which were missed by the shovel transect strategy.

Another method which proved productive in terms of locating prehistoric sites was the intensive coverage of the shorelines which provided good ground surface visibility (see Figure 11b). The shorelines were traversed in a manner such that one individual would investigate the land near the water's edge while a second person would investigate those areas near the treeline. All shorelines located within the survey items were surveyed in this fashion.

Other site discovery methods such as backhoe trenching and periodic placement of large test pits for the purpose of observing soil profiles and deeply buried cultural deposits were considered unnecessary given the massive erosional processes and general lack of soil development in the upland areas. In fact, the areas along the shoreline were stripped of all soil, leaving the red clay substrate exposed. In other areas the shovel test procedure was sufficient to document the soil depth, which rarely exceeded 30 cm.

SITE COLLECTION PROCEDURES

The goal of site collection procedures was to obtain as much information as possible concerning location, period of occupation, artifact distribution and density, and an evaluation of any disturbances (either natural or cultural) which had

TABLE 3
SURVEY COVERAGE OF B. E. JORDAN DAM AND LAKE ITEMS

Item No.	Survey Area	Total Area (ha)	CAI Survey Intensity		
			High	Moderate	Low
9	North Carolina Division Forestry	363.4	36.4	163.5	163.5
6	Bell's Landing/ Bride Trails	192.2	4.0	94.1	94.1
4	Rivers Junction	32.4	1.6	15.4	15.4
3	Robeson Creek	149.8	16.2	66.8	66.8
18	North Carolina Wildlife Headquarters	22.2	4.0	9.1	9.1
11	Morgan Creek	242.8	50.6	96.1	96.1
	Subimpoundments				
19	No. 1	53.3	13.3	26.7	13.3
20	No. 2	80.5	20.1	40.3	20.1
21	No. 3	141.2	35.3	70.6	35.3
22	No. 4	172.7	43.2	86.3	43.2
23	No. 5	50.0	12.5	25.0	12.5
24	No. 6	44.3	11.1	22.1	11.1
25	No. 7	<u>176.9</u>	<u>44.2</u>	<u>88.5</u>	<u>44.2</u>
	TOTALS	1721.7	292.5	804.5	624.7



A. Abandoned road traversing through dense vegetation.



B. Clear-cut area along B. Everett Jordan Reservoir shoreline.

CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

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FIGURE 11
SURVEY CONDITIONS

occurred on the site. The collection procedures were designed to be systematic and methodical to ensure the most representative sample possible from each site. When standing structures and architectural features were encountered, the collection procedure varied from those used on subsurface archeological sites to include data pertaining to building construction techniques, type of structure, function of structure, etc.

Collection procedures associated with prehistoric and historic archeological sites without structures included a combination of shovel testing in areas of dense vegetation and total pickup of artifact collections in areas of good ground surface visibility. When a site was discovered in a transect shovel test, subsequent shovel tests were placed in the cardinal directions radiating out from the initial test unit at 10 to 20 m intervals. Shovel tests in each of the cardinal directions continued until no artifacts were found in two consecutive units in each direction and then served as the site boundary for that direction. All artifacts recovered in shovel test units were bagged separately in a ziplock plastic bags with a provenience card indicating the date, the site number, the person conducting the shovel testing and the geographical coordinates of the shovel test unit. When artifacts were found in roads or along the shoreline, shovel tests were placed from the center of surface scatter using the same strategy as described above. Only rarely was the artifact density so high that it became necessary to make a sample collection of the artifacts observed on the surface. In incidences such as these, the method described as a grab sample (Goodyear et al. 1979) was used to collect a representative sample of the various artifact and raw material types occurring at the site. All visible diagnostic artifacts were recovered using this method. Cultural materials recovered on the surface were placed in a ziplock bag with a provenience card indicating a general surface collection, the site number, the date and the crew members performing the collection.

Collection procedures used on historic sites with standing structures or structural remains incorporated many of the methods used on sites with no structural remains. In addition to shovel testing and total surface collection, measured drawings of floor plans and construction techniques were made. Scale maps of general site plans were made of sites with multiple structural remains. To supplement this information, in many of the main house dwellings, at least one 1 x 1 m unit was excavated and the backdirt screened through 1/4 inch hardware cloth in an attempt to monitor crucial variables including: 1) depth of cultural deposit; 2) density of artifactual material; 3) presence of diagnostic artifacts indicative of the original occupation; 4) soil profiles and 5) presence of intact cultural features.

RECORDATION PROCEDURES

After the discovery of a site and while the shovel testing was in progress, one crew member was assigned the task of filling out a modified version of the North Carolina State site form. Due to the extensive nature of this form, it was not possible to complete all aspects of the form in the field, particularly questions pertaining to artifactual content. That portion of the form was completed after the analysis segment of the project. Sections of the form which were concentrated on in the field included locational information, directions for reaching the site, sketch map of local topography, description of soils, modern vegetation site boundaries, and environmental and artificial factors affecting the

site. Also, a detailed sketch map was prepared illustrating the number of positive and negative shovel tests placed in the vicinity of the site.

LABORATORY TECHNIQUES AND PREHISTORIC ARTIFACT ANALYSIS

Laboratory preparation of the artifacts began immediately after they were recovered in the field. At the end of each day, the bags of artifacts were assigned a sequential bag number which was written on the provenience card of each bag and placed back into the individual bags. This bag number was then transferred to a bag list which included information already recorded on the provenience card. This list served two purposes. First, it provided a daily check on the provenience cards brought in from the field each day. If mistakes were found or vital information was omitted, it was an easy matter to reconstruct the day's activities and make the necessary corrections. Second, the list served as a quick and efficient way of cross-checking sites and the amount of material recovered from individual units.

The next stage of the laboratory process was conducted in Jackson, Michigan, and involved the washing and rough sorting of all materials. At this time, any damaged bags or provenience cards were replaced with new ones. Also, any artifacts requiring special treatment (i.e., metal artifacts in need of stabilization) were set aside for future handling.

After the artifacts had dried, catalog numbers obtained from the North Carolina Department of Archives and History, Archeology Branch were assigned to the material recovered from each site. Two additional numbers relating to the provenience location within the site and artifact number were affixed to the original catalog number, allowing artifacts to be pulled out and returned to their respective site bags during analysis.

The final stage of the laboratory process involved a detailed typological and quantitative analysis of the material culture recovered during the field operations. Prehistoric artifacts were sorted into seven major categories including hafted bifaces/projectile points, bifaces, unifaces, debitage, cores, other lithics and ceramics. These categories are described below.

The category of hafted biface/projectile point represents all bifacially worked tools with haft elements. Incorporation of the hafted biface terminology into what has traditionally been called projectile points is the recognition that many of the artifacts subsumed under this category are in fact multifunctional tools (see Ahler 1971). Two types of analysis were conducted on this artifact category including typological and attribute analysis. The goal of the typological analysis was the eventual assignment to cultural-historical periods using the criteria established by Coe (1964) and Claggett and Cable (1982). The attribute analysis (see Appendix E) was designed to monitor critical attributes thought to be sensitive indicators of technological organization, human procurement and mobility strategies. Most of the attributes used in this study are derived from Binford (in White et al. 1963).

The biface category includes bifacially worked stone tools encompassing a wide variety of shapes and sizes. Previous research has indicated that tools included in this category served a multitude of functions ranging from

preforms (Frison and Bradley 1980) to bifacial cores (Binford 1976; Claggett and Cable 1982).

The uniface category is composed of flake tools including utilized and modified flakes. These tools exhibit retouch modification or evidence of utilization.

The core category is composed of various rock types which have no observable bulb of percussion and which exhibit at least one surface where flakes (one or more) have been removed.

The debitage category is composed of the manufacture and maintenance by-products of a chipped-stone tool industry. This category is subdivided into four reduction stages including, primary, secondary, interior and thinning flakes (White et al. 1963).

The other lithics category includes artifacts such as ground and polished stone tools, pitted cobbles, pieces of hematite and fire-cracked rock.

For the prehistoric ceramics category, several attributes were examined on the ceramic assemblage. These included vessel form (rim, body, shoulder, base sherds), temper and/or natural inclusions, surface treatment, thickness, and exterior color using a Munsell book. Also, a typological classification was performed on those sherds exhibiting temporally diagnostic traits defined by Coe (1964).

HISTORIC ARTIFACT ANALYSIS

To facilitate the analysis, historic material from this survey was divided into groups made up of seventeen classes. The classes represented the materials from which the artifacts were manufactured, which are further broken down into wares and, finally, types (South 1977:92-93).

Attributes were used in this analysis to distinguish artifact types within classes of artifacts (e.g., ceramics, nails, glass, etc.). For example, ceramics were classified by paste hardness, glaze color, paste color, decorative motifs such as edge treatment, embossing, technique of decoration (hand painting, stencil, transfer print, etc.), and glazing (over decoration or under decoration). For artifacts to fit into a ware category, several attributes, such as paste color, hardness, and glaze color, had to remain constant across types. Thus, the physical composition of the artifacts determined the material classification.

Based on morphological and utilitarian criteria, artifacts were classified into sixteen classes. These classes were then combined to form groups based on their context of utilization. The basic approach to artifact group/class analysis was developed by Stanley South (1977) as a heuristic device to aid in discovering site patterning in the historical archeological record. South's artifact groups are composed of classes of artifacts that function, systematically, in similar fashions and include nine groups: kitchen, architecture, furniture, arms, clothing, personal, tobacco pipes, activities, and pewter. For example, the kitchen artifact group includes ceramics, wine and case bottles, tumblers, pharmaceutical artifacts, glassware, tableware and kitchen ware (South 1978). By comparing the artifact

groups at five eighteenth century British/American sites in North and South Carolina, South proposed the Carolina Artifact Pattern. Two structures that burned in 1776 were excavated at Brunswick Town, North Carolina. Two excavations took place at Fort Moultrie, South Carolina, and involved examination of midden deposits from the American occupation of the fort, ca. 1775-1780, 1794, and the British occupation of the fort, ca. 1780-1782. The fifth excavation occurred at Ninety-Six, South Carolina, and was concerned with a single-room cellar with occupation dates of ca. 1783-1800 and accumulation of a secondary midden deposit dating from ca. 1800-1820. (South 1977:92). South lists fifteen collection attributes that his sites must meet for inclusion in the Carolina Artifact Pattern. Some of these include: (South 1977:90):

- A collection representing a wide variety of activities reflecting human behavior;
- Collections recovered in a controlled manner using screens to recover small specimens;
- Collections from which total artifact counts were available; no selectivity of artifacts on the basis of value judgements having been made regarding the curation of the objects.

The five sites used by South to delineate the Carolina artifact pattern represent large, meticulously excavated data sets. Unfortunately, large, excavated data sets as these are becoming increasingly more difficult to obtain. In an effort to describe patterning on historic archeological sites, archeologists have used this technique of artifact groups (Foreman and Gallo 1979; Lewis 1976:109-118). The Carolina Artifact Pattern in particular, and the artifact group analysis in general have had their critics (e.g., Benson 1978; Stevenson 1983). It should be stressed that South's method of artifact group classification has been used here as a heuristic device to facilitate discussion and comparison, although his specific artifact groups have not been retained since the Jordan sites are not representative of exclusively eighteenth century British settlement or large excavated data sets. Since the data were collected under survey conditions, a direct correlation with South's excavated data sets would be tenuous at best. Thus, his method or technique is what has been retained here.

The historic sites located during the project include farmsteads dating from the late eighteenth century through the 1930s. Examples of rebuilding are frequent on these sites and the archeological evidence suggests the decline in the economic status of their residents. These sites reflect numerous occupations, with materials from one structure used to repair other buildings on the site during periods of reoccupation. Refuse found on these sites may reflect a series of site abandonment and reoccupation processes, or merely later dumps. Lewis and Haskell (1981:38-42) examined abandonment and reoccupation as reflected in the privy at Middleton Place, a plantation site in Charleston County, South Carolina. By studying artifacts with narrow use dates they were able to reproduce archeologically the historically documented reoccupations of the site. Additional work at the Jordan sites may produce results similar to the Carolina Artifact Pattern or the Piedmont Survey Pattern (Taylor and Smith 1978:351-3); alternatively, they may

uphold differences that are already apparent and lead to the establishment of a separate pattern based on middle class yeoman farmer behavior.

Artifact groups used in the Jordan analysis based on South's (1977) analytical system include domestic, architecture, stable and barn, farm, arms, and miscellaneous.

The Domestic Group consists of classes of artifacts where function is assumed to be connected with daily activities of a household. These classes include ceramics, bottle glass, other kinds of glass, cast iron stove parts, cast iron cooking utensils, and personal items. The ceramics are divided into stonewares, for food preparation and storage, and earthenwares and porcelain for food serving. Nine variables were analyzed on the examples of salt glazed stoneware in the collection. The first variable looked at the type of vessel the artifact appeared to represent. The second variable was vessel volume; in some cases a volume designation was impressed into the body of the vessel while the clay was still wet. The next four variables were aimed at discovering the actual size of the vessel. Variable three was the diameter of the base, if present. Variable four was the diameter of the vessel mouth. Variable five dealt with the diameter of the vessel body at the widest point and variable six measured the height of the vessel at the tallest point. Variables seven through nine focused on the method of production of the vessel, including color of the body paste (the clay used in the making of the vessel), whether there was the presence or absence of an interior glaze, exterior decoration (e.g., volume numbers). These last three variables attempted to identify the place of manufacture and function of the vessel. For example, if a vessel lacks an interior glaze, no matter how hot the firing was, the vessel will be more permeable to liquids than one with an interior glaze. Therefore, long-term storage of liquids would be impractical in a vessel without an interior glaze. These types of vessels would, in all probability, be used in connection with thick, more viscous substances, such as the early Spanish olive jars that were used for transportation and/or storage of olive oils (Goggin 1968). These wares are well suited to water storage since the evapo-transpiration helps to keep the water cool.

The majority of whiteware can be determined to involve the process of serving food. Most of the pieces have no discernible decoration to aid in dating them. Whiteware has been produced from the 1830s to present day, with the period between the 1860s and the 1930s witnessing the establishment of many new companies mass producing cheap serviceable whiteware for the American public. Again, the decline in the production of whiteware may be tied in with the development of lighter, cheaper, and more durable products, many produced of plastics.

Also present in the assemblage are items which do not relate to the preparation and serving of food, but which do fulfill a functional role in household activity, such as chamber pots. The glass assemblage includes whiskey, soda, and medicine bottles, Ball-Mason jars (also for food storage), tableware, and ornamental glassware (vases, figurines, etc.). The cooking utensils and stove parts also represent an aspect of food preparation. Clothing buttons are the only personal items represented in the assemblage.

The Architectural Group is made up of structurally related artifacts (artifacts whose functional context is in the construction and maintenance of a structure). This is numerically the largest artifact group represented in the survey

collection, with nails composing the largest class; consequently a short discussion is presented below.

Wrought iron nails were shaped by hand and are the earliest type of nail; they are the dominant type found on historic sites from seventeenth century through about 1820. Cast nails made an appearance in the eighteenth century (ca. 1770) and remained in use until the nineteenth century (ca. 1820). The first machine-cut nails had hand-made heads and date from the 1790s to the 1830s. Machine-made nails with machine-made heads appeared in the late 1830s and are still manufactured today, though not widely used any more. Wire nails made their appearance in the 1860s/1870s; they became the dominant type used in construction in the 1890s.

Nail head types have a use in dating the nails collected, especially if the whole nail is not present to allow proper identification of manufacturing techniques. The rosehead nail dates from the earliest manufacture of hand-wrought nails. It consists of five hammered facets spreading out and down from a central point. Following this type comes the T-headed nail in which a flat disk head is hammered over on opposite sides of the nail shaft. The next type, the L-headed, has the head hammered only over one side of the nail shaft. L-headed nails were also common on machine-cut nails with machine-made heads, as they were formed at the time the nail was cut from the metal nail plate. The later machine-cut nails with machine-made heads had flat heads, usually rectangular in shape. Wire nails had flat heads varying in size from small (the circumference of the nail) to large thin heads. The size of the nail and the shape and size of the nail head help to determine the function the nail may have served, whether flooring nails, finishing nails, common building nails, or roofing nails. Headless nails were mostly machine-cut and specifically designed without a head to be used in finishing and flooring.

Nail point types also varied with the nail manufacturing technique. Hand-wrought nails could be hammered down to form a sharp point, a "strong" flat point, or a "fine drawn" flat point. Curved points are characteristic of machine-cut nails and result from the shearing technique used to cut the nail from the nail plate. The 4-facet point found on wire nails is caused by the cutter die when the wire is sheared off to the designated size.

Nails were analyzed by recording a number of variables representative of form and function including method of manufacture, style of the head, the condition of the artifact (whether whole or broken), the length of the nail, the type of point on the nail, and, based on all the above analyses, a possible determination of the particular function of the nail (Nelson 1968).

Window glass, brick, roofing material, and mortar were also included in the Architectural Group. Only the presence or absence of these structural artifacts on each site was recorded. Based on its thickness, window glass can be dated as manufactured before or after 1845.

The Stable and Barn Group, with the exception of one horseshoe and one saddle stirrup, consists entirely of assorted harness pieces. This group was distinguished from the Farm Group because harness function is so important in any context in which horses are used, including agrarian, transportation, and recreational activities. The Farm Group includes artifacts that can be identified as representing farming activities (e.g., planting, harvesting, etc.).

Nuts, bolts, screws, hinges, washers, etc., fall into the Hardware Group. These artifacts represent a variety of activities ranging from construction and architecture to transportation. Since nothing in this class positively indicates a more specific function, these artifacts were grouped together.

The Arms Group consists of artifacts such as gun parts and ammunition. The Miscellaneous Group is a category for artifacts which could not be identified with any certainty.

SUMMARY

After all artifacts had been washed, sorted, analyzed and cataloged, they were returned to their boxes. The metric analysis (see Appendices D through H) then proceeded by each artifact class (i.e., the hafted biface data constituted one file, bifaces another file, etc.). The artifact coding forms on which the metric analysis was conducted were then punched onto computer cards and entered into disk storage space at the University of Michigan Computer Center. At this time, the data reduction process began; this process is described in the survey results.

CHAPTER VI SURVEY RESULTS

SITE DESCRIPTIONS

The survey of the recreation development areas and subimpoundments involved the inspection of 13 separate items of land on which 94 prehistoric and/or historic sites were located and evaluated. Presented below is a brief description of each site beginning with the North Carolina state site number followed by the state catalog number (in parentheses) and identification as to prehistoric or historic occupancy of the sites. The reader should note that the English system of measurement has been retained in the discussion of historic sites. It is argued here that the use of the English system facilitates descriptions of structural remains and geographic positioning of outbuildings since these sites were originally conceived using this form of measurement.

31Ch42 (82-408) Prehistoric Site

This thin lithic scatter was discovered on a small wooded saddle, during a pedestrian survey of a steep narrow ridge. The site elevation is 365 feet MSL. Cultural material was collected in areas of good ground surface visibility and shovel tests were placed at 10 m intervals in the site area and beyond in the four cardinal directions. Unfortunately no material was recovered from the subsurface tests. The site and adjacent areas were disturbed by abandoned dirt roads extending along the ridges. The moderately to heavily eroded soil is classified as a Georgeville silty clay loam. A small, unnamed stream lies 520 m north of the site. Site size is recorded as level 2 (11-25 square meters). Artifacts recovered include one core and nine pieces of debitage. No additional work is recommended at this site due to the effects of erosion and low artifact densities.

31Ch43 (82-409) Historic Still

This site is located on an upland ridge 270 feet MSL, 1250 feet west of the Haw River. An intermittent stream lies 100 yards south of the site, down a slope with a gradient of approximately 20 percent. The site and surrounding environs are wooded with mature stands of short leaf pine and mixed hardwoods.

The site is defined by a rectangular pit measuring 4 feet east-west and 7 feet north-south; it is 3 feet deep. The south edge of the pit is bordered by a flattened area of soil 1-1/2 feet wide and 3 feet long. An accumulation of undifferentiated fieldstone rubble, 12 feet in diameter, lies 33 feet due east of the pit. The association between the rubble and the pit is probably only incidental, as other similar rockpiles dot the surrounding forest, the result of previous agricultural activity.

A shovel test in the center of the pit had negative results. Surface collection yielded a single artifact: an iron flywheel 27 inches in diameter. Due to the excessive weight of the item, it was left at the site after being photographed in situ. No further work is recommended at this site.

31Ch237 (82-410) Prehistoric Site

This site, discovered during systematic shovel testing, lies on a gently sloping, forested ridge nose at 270 feet elevation overlooking the confluence of the Haw River and an unnamed tributary.

The first shovel test producing cultural material was designated as the datum with additional shovel tests placed at 20 m intervals in the cardinal directions from that point. Four of the eleven subsurface units produced material. Based on these shovel tests site size is estimated to be 800 square meters. Artifacts recovered included quartz and metavolcanic debitage, a pitted cobble, and a small Mississippian triangular projectile point.

Erosion on the site is variable, although generally light; consequently several centimeters of soil cover the cultural material. Soil type is defined as a Georgeville silty clay loam. Due to the occurrence of intact soils on some locations, it is suggested that this site be monitored by an archeologist if adversely impacted by construction projects.

31Ch287 (82-411) Historic Still

This site is located on a terrace remnant 250 feet MSL, 120 feet west of the Haw River. An intermittent stream runs into the Haw River 85 feet south of the site. The area is wooded in short leaf pine and mixed hardwoods.

31Ch287 (Figure 12) consists of a rectangular pit and an associated iron tank, interpreted as representing the remains of a still. The pit's dimensions are 6.5 feet east-west by 8 feet north-south, and it slopes toward the center to a maximum depth of five feet. A small trench, 6 feet long, 6 inches wide, and 4 inches deep, extends from the south edge of the pit toward the intermittent streambed. Thirty feet southeast of the pit, an ovoid cylindrical riveted iron tank 9.5 feet long, 4 feet wide, and 3 feet high lies upon the ground surface.

Shovel tests were dug in the pit floor; however, no artifactual material was recovered. Soils in the area are included in the Georgeville silty loam series. No further work is recommended at this site.

31Ch306 (82-412) Prehistoric Site

This site, represented by a single biface, was discovered in an unnamed streambed that flows through a narrow, scrub covered floodplain. The streambed and bank cuts were carefully inspected; however, no other cultural material was found.

Due to low ground surface visibility along the stream edges, shovel tests were placed parallel to the channel at 10 m intervals along both banks. All shovel tests were negative.

Near the stream banks soil deposits were over 30 cm thick. The soil type is classified as a Georgeville silty loam. No further work is recommended at this site.



Iron tank associated with Historic Still Site.

31Ch364 (82-413) Prehistoric Site

This light surface scatter was found in an eroded dirt road near the confluence of the Haw River and an unnamed tributary. The site lies at 270 feet MSL on a narrow ridgetop forested in pine and scrub hardwoods. The ridge slopes are heavily eroded.

Shovel tests were placed at 20 m intervals along the crest of the ridge near the surface scatter; however, all were negative. Subsurface observations revealed heavy erosion of the topsoil on the site. The soil type for the area is classified as a Georgeville silty clay loam.

Artifacts recovered included quartz and metavolcanic debitage and one uniface. Site size is estimated to be between 26 and 100 square meters. Due to heavy erosion and road construction disturbances, no further work is recommended at this site.

31Ch386 (82-414) Prehistoric Site

Discovered during systematic shovel testing, this site lies at 350 feet MSL on a forested, heavily eroded knoll top overlooking the Haw River. From the first productive shovel test, additional shovel tests were spaced at 20 m intervals in the cardinal directions. One piece of metavolcanic debitage was recovered. Site boundaries based on the shovel tests indicate an area less than 10 square meters in size.

Subsurface observation indicated heavy erosion left only a thin humus layer over red clay. Soil in this area has been classified as Goldstone gravelly silt loam. No further work is recommended at this site due to the effects of erosion and low artifact density.

31Ch484 (82-415) Historic Farmstead

This site lies on a level ridgetop, at 380 feet MSL elevation, 500 yards west of the Haw River. The homestead is located in a mature stand of short leaf pine and mixed hardwoods. Soils in the area are included in the Georgeville silty loam series.

The farmstead consists of the remains of a house structure, associated well, and artifact scatter. The rectangular house foundation, of dry-laid fieldstone, averaging about two feet in thickness, measures 28.6 feet east-west by 21.8 feet north-south. A cellar depression three feet deep lies inside the foundation walls, measuring 16 feet east-west by 14 feet north-south. Remains of a fieldstone hearth and chimney fall, stretching 18 feet in an easterly direction, are located near the center of the east foundation wall. A white oak tree, 12 inches in diameter, was noted growing inside the foundation wall boundaries, suggesting an abandonment of the structure at least 50 years ago. Myrtle, indicative of home sites, was observed near the site. Pecan trees were found growing about 100 yards east of the foundation.

An open, unlined well 33.5 feet deep lies 28 feet due east of the northeast foundation corner. While erosion has widened the mouth of the well to a diameter of 8 feet; its original walls, 4 feet in diameter, begin at 10.5 feet below ground surface level. Blaze orange flagging tape was placed around the well to act as a barrier and visual warning to passers-by, and Corps of Engineers personnel were notified. A mound of soil and rock encircles the well, probably generated at the time of its excavation.

Shovel testing included four tests inside the structure foundation, and tests in five meter intervals around all four walls. Recovered were square machine-cut nails, window and bottle glass, and ceramics of nineteenth century origin. Analysis of materials recovered from this site is presented on page 193 of this report.

Mr. Raymond E. Thomas, who lives nearby, was interviewed. He remembered a family named White who occupied and farmed the site. A Mr. H. J. White was born at the house and died at age 74, by which time the house had long been abandoned. Mr. Thomas has lived at his address, about one mile from the site, about 28 years.

This site is very similar in site structure and artifact assemblage to sites found in the proposed National Register District. Further examination of this site is unnecessary and would provide redundancy in data recovery operations of early historic farmsteads in the project area.

31Ch485 (82-416) Prehistoric Site

This site, located at 330 feet MSL, was discovered during systematic shovel testing of the principal ridge running east/southeast toward the confluence of the Haw River and Roberson Creek. The ridge is forested in pines and mixed hardwoods.

Using the first positive shovel test as a reference datum, additional shovel tests were placed at 10 m intervals in the four cardinal directions. Based on the shovel test results, site size is estimated to be 600 square meters. The site appears to be confined to the knoll top. Cultural material included metavolcanic debitage. Mixing of clay and the overlying soil, a Goldstone gravelly silt loam, was evident in the subsurface tests.

No further work is required at this site due to the heavily disturbed soils occurring in this area.

31Ch486 (82-417) Historic Farmstead

This site is located on an upland ridgetop 270 feet MSL, overlooking the Haw River. The site and environs are wooded with mature stands of short and long leaf pines and mixed hardwoods. Soils in the area consist of one to three inches of Goldstone gravelly silt loam, over red sterile clay. The ridge on which the site is situated is well drained, with small intermittent streams at both the north and south ridge bases. The mouths of these streams, now inundated by the flood pool, form inlets. The core area of the site is about 100 m west of the Haw River.

The site (Figure 13) is defined by the remains of a structure, artifact scatter, and an open well. A partially standing fieldstone chimney stands about 10 feet high on the former structure's west side. It is a substantial 7 feet wide. While the hearth opening is largely intact, a fieldstone rubble pile 10 feet in diameter and 5 feet high, heaped against the hearth's east side, represents the chimney fall.

Dense undergrowth has obscured specific outlines of the structure. An area of fieldstone rubble east of the chimney fall is 16 feet in diameter. A triple course of red brick at ground level on the south edge of the former structure may represent either a foundation or a walkway. Timber remains were confined to a single beam, 17 feet long and almost completely decayed. Examination of the beam showed it had been burned. A red pine one foot in diameter stands in the middle of the foundation area, suggesting abandonment of the structure at least 50 years ago.

An open well is located about 20 yards southeast from the chimney fall. The well opening has eroded to 9 feet in diameter, narrowing to its original diameter of about 6 feet approximately 4 feet below ground level. It is not stone lined, and reaches water after a straight drop of 15 feet. Blaze orange flagging tape was placed around the well as a visual warning, and Corps of Engineers personnel were notified of the potential hazard.

The artifact scatter covering the entire ridge nose, an area of about 900 square meters was surface collected. Recovered were ceramic and glass artifacts. Shovel tests were dug inside the former structure in an effort to recover diagnostic artifacts. These tests yielded machine-cut and hand-wrought square nails. Detailed analysis of these materials is presented on page 195 of this report.

Due to a redundancy in artifact assemblage and site morphology to other sites located in the proposed National Register District, no further work is recommended.

31Ch487 (82-418) Historic Farmstead

This site is located on an upland ridgetop at an elevation of 280 feet MSL, 275 yards west of the Haw River. The site lies in stands of short leaf pine and mixed hardwoods. The ridge is bounded on the north and south by steep gullies with intermittent streams at the base. Poorly defined remains of a roadway run in an east-west direction, 5 feet north of the site. The site is located approximately 200 yards west of 31Ch486, a dwelling site with associated open well. Soils in the area are included in the Goldstone gravelly silt loam series. Soils, however, have largely eroded away to reveal underlying red clays.

The site includes a structure and an open well. Dry-laid fieldstone piers represent a foundation that measured 45 feet east-west and 25 feet north-south. A 4 foot deep cellar with earthen embankments is in the foundation's west half. The northwest and southwest foundation piers are substantial, being 8 feet square, and are constructed of dry-laid fieldstone stacked 4 feet high, suggesting a cellar entrance at the base of the former west wall.

An open well 7 feet in diameter lies 20 feet due east of the former structure's east foundation wall. The lip of the well is relatively uneroded, despite the lack of stone or brick lining. A rock was tied to the end of a measuring tape in an effort to ascertain the depth of the well; however, 50 feet of tape proved

insufficient. Blaze orange tape was placed around the area as a visual warning. An accumulation of undifferentiated fieldstone, 15 feet in diameter and 4 feet in height, lies 3 feet northeast of the well edge. It probably represents backdirt generated by original well excavation.

Shovel tests were placed in the corners and center of the former structure. Shovel tests were also placed outside all four walls. Artifacts recovered include square, machine-cut nails and an iron fragment. Detailed analysis of these materials is presented on page 195 of this report.

Due to a redundancy in site morphology and tool assemblage to other sites located in the project area, no additional work is recommended.

31Ch570 (82-419) Prehistoric Site

This is an extensive multi-component site located on a terrace remnant near the confluence of the Haw River and Roberson Creek. The site was first discovered as a sparse surface scatter along 185 meters of a north-south trending dirt road across the area.

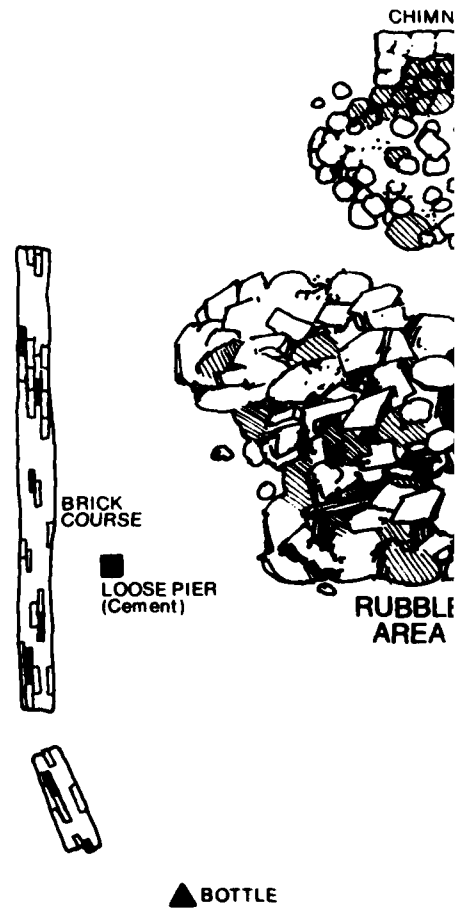
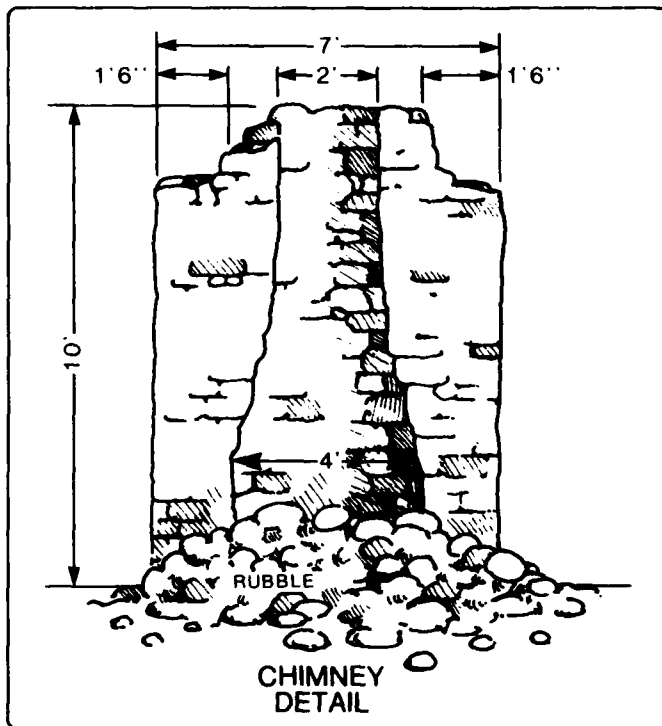
The ground surface is generally level, rising gently to a low knoll on the northwest portion of the site. The area is presently a pine and scrub brush covered peninsula defined by the flooded channels of the Haw River and Roberson Creek. Average elevation across the site is about 220 feet MSL. Portions of the site appear to have been inundated by the Jordan Lake, as cultural materials were visible below the conservation pool level (216 feet). Prior to flooding, the Haw River channel was located 80 m west and Roberson Creek 60 m due south of the site.

Construction of a second dirt road and the resultant erosion had destroyed a 30 m wide area running east to west across the central portion of the artifact scatter. Artifacts eroding from the road cut indicated a continuous deposit conforming to the surface distribution.

Due to the quantity of artifacts visible in road cuts, eroded areas, and accessible flooded areas, a selective surface collection strategy was employed in order to ensure a representative sample of raw materials occurring on the site. All observed diagnostic artifacts were collected.

Shovel tests were spaced at 20 m intervals across the site. Soil depth varied and mixing with underlying clay was evident. Erosion varied from heavy on slopes and areas adjacent to road cuts to light on the knoll top. Soil in this location has been classified as belonging to the Georgeville stony silt loam type. All material was retained from the subsurface tests. Six of these tests were positive, four from the flat area near the 216 foot conservation pool level of the lake, and two from the knoll top. Without exception, positive shovel tests occurred in the areas with least erosion. Based on the surface artifact distribution and shovel test results, the portion of the site remaining above the water was estimated at about 11,000 square meters.

The artifact assemblage includes an Early Archaic corner-notched point, a Yadkin point, two unifaces, seven bifaces; and over 80 flakes of quartz,



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CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

COMMONWEALTH ASSOCIATES, INC.

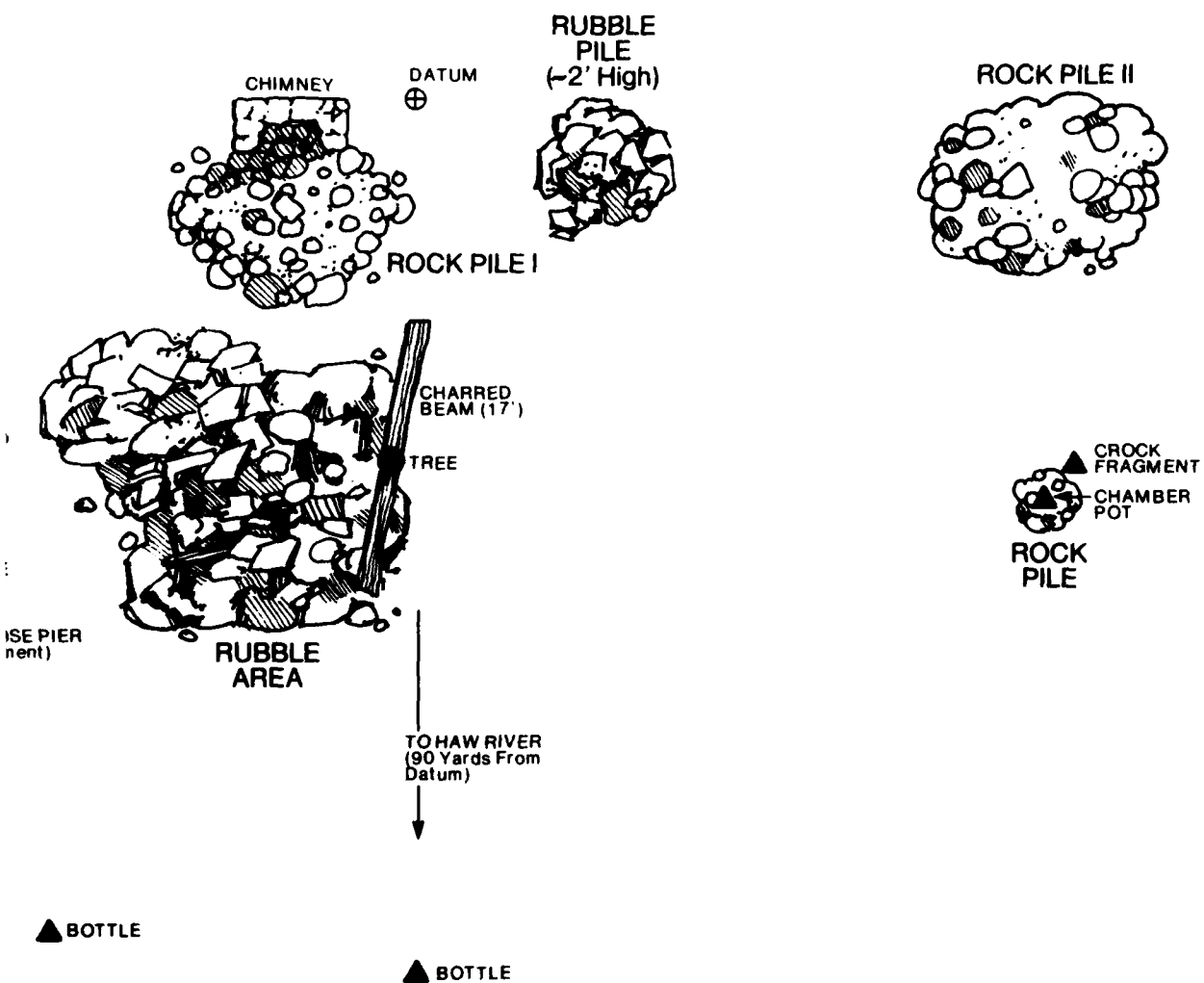


FIGURE 13
PLAN VIEW-SITE 31Ch486

chert, and several metavolcanic materials. One historic artifact, a machine-cut nail, was also recovered at this site.

While major sections of this site have been disturbed by road construction and periodic inundation by the lake, two areas of the site have been identified as retaining shallow subsurface deposits. Therefore, it is recommended that an archeologist be present to monitor this site if adversely affected by construction projects.

31Ch488 (82-420) Prehistoric Site

This site was discovered in a road cut across a flat, pine covered terrace remnant at an elevation of 225 feet MSL. A small unnamed stream flows 350 m to the southeast. The soil type for this area was recorded as White Store fine sandy loam; however, heavy erosion had resulted in exposure of the underlying clay.

A total surface collection was made from the road cut area. Several shovel tests were placed at 10 meter intervals in cardinal directions; one test located near the top of the road cut was positive. Artifacts recovered included Palmer and Kirk projectile points, one biface fragment, and metavolcanic debitage.

This site, located in the flood pool of the lake, is heavily disturbed by road construction activities. No additional work is recommended.

31Ch489 (82-421) Prehistoric Site

This site was discovered during systematic shovel testing of a heavily wooded flat terrace remnant at the edge of the flood pool level of 240 feet MSL. Beyond the flat area, the surface slopes downward to the south. A small unnamed stream is located 700 m to the east.

Shovel tests placed at 20 m intervals in cardinal directions from the initial positive test resulted in one additional productive unit. Examination of the subsurface units indicated a layer of humus overlying a sandy loam horizon classified as a White Store fine sandy loam. Five pieces of metavolcanic debitage were recovered. Site size was estimated to be less than 25 square meters.

Based on the recovery of six flakes in a small area, this site is not recommended for further work.

31Ch490 (82-422) Historic Farmstead

This site is located on a terrace remnant, 250 feet MSL, overlooking the Jordan Lake flood pool 850 yards to the northwest. When the lake flood pool is filled to capacity, the site is on an island. Vegetation of the site consists of low brush and grasses associated with overgrown, but still unforested fields. Soils here are very thin, consisting of a layer averaging about 4 inches over sterile red clay, and are included in the White Store fine sandy loam series.

The site (Figure 14) consists of a single standing structure, a house foundation, and a collapsed outbuilding. This building is constructed of saddle-notched logs, milled lumber, and sheet metal roofing. Recently it served as a hay barn as evidenced by the quantity of decaying hay in the interior. The floor plan is nearly a perfect square, approximately 12 x 12 feet, and is oriented in cardinal compass directions. Ground level to roof height is 9.6 feet. A doorway 3 feet wide is cut into the south face. Two windows about 2 feet square exist on the structure's north face. A dove cote is located near the roof peak of the north face. Average log diameter used in wall construction is 5 inches. This log hay barn was very likely constructed during the first half of the twentieth century.

Ninety feet southwest of this hay barn lie the remains of a structure, probably a dwelling. Dry-laid fieldstone piers, a stone wall, a single brick and cement pier, and a fieldstone chimney fall all serve to delineate the former structure. Specific dimensions are obscured by vegetation and piles of tin roofing fragments; however, the dwelling appears to have been at least 30 x 30 feet with a chimney on its north side. Noted inside the foundation area was a hewn wooden beam 10 feet long, and 9 inches square. A pecan tree, 1.5 feet in diameter, stands 15 yards southwest of the dwelling foundation.

Twenty-six yards southeast of the south foundation wall of the former dwelling are the collapsed remains of a board shack. Examination of the shack showed it to be of very recent origin, and it is therefore noted only in passing. Garbage dumps exist west, north, and east of the core areas of the site. They are of very recent origin, and represent dumping episodes which occurred no earlier than a decade ago.

Surface collection revealed several galvanized metal livestock feeders north of the log hay barn. These and miscellaneous other mid-twentieth century debris, such as automobile parts, suggest an occupation of the site extending well into the twentieth century.

The site has been subjected to major erosional disturbances and has been used as a contemporary garbage dump site by the local inhabitants of the area since the creation of the lake. No further work is recommended at this site.

31Ch491 (82-423) Prehistoric Site

This site includes six metavolcanic flakes located in a dirt road at the edge of a flat wooded terrace remnant at an elevation of 235 feet MSL. A small unnamed stream is located 700 m to the east. Shovel tests were placed at 20 m intervals along cardinal directions from the road scatter. All shovel tests were negative. Soil type for this location is classified as a White Store fine sandy loam.

This site has been heavily disturbed by road construction and erosion caused by extensive agriculture. No further work is recommended at this site.



North face of early 20th Century log barn on the site. Note the dove cote near the peak of the roof.

31Ch512 (82-424) Tobacco Barn

This site is located on an upland ridgetop at an elevation of 260 feet MSL, 300 yards west of the present Jordan Reservoir flood pool. The intersection of new State Road 1941 and old State Road 1941 is about 1,000 feet west of the site. The site is in a mature stand of short leaf pine and mixed hardwoods, on Goldstone gravelly silt loam.

The characteristics of site 31Ch512 suggest it may represent the remains of a tobacco barn. The site is defined by a foundation of mounded earth, representing the remains of a square structure measuring about 19 x 19 feet. Orientation of the walls was parallel to cardinal directions of the compass. Dry-laid fieldstone piers were noted on the northeast and southeast corners. Mounded earth, about 2 feet high, composed the remaining foundation. A doorway was apparently extant in the center of the former structure's east wall, as a 10 foot gap exists in the foundation at this point. A small opening exists in the southeast pier. Constructed of fieldstone, it extends 16 inches into the wall at ground level. It is 1.4 feet wide and .9 feet high. It may well represent an outside opening of a horizontal flue, typical of those observed on the floor of tobacco barns.

A shovel test was placed in the center of each foundation wall to determine if they were constructed of fieldstone or mounded earth. No fieldstone or other structural elements were noted in the foundation walls beside those in the piers. Additional shovel tests were placed near the center of the former structure and outside the walls in each cardinal direction. Two round wire nails were recovered, and a length of iron stove pipe was noted on the surface, inside the southeast corner of the foundation.

No further work is recommended at this site.

31Ch513 (82-425) Prehistoric Site

This site was recorded during systematic shovel testing along an upland ridge. The site was located on a flat pine covered area with a steep slope descending to the south. A small unnamed stream flows 250 m to the north. The soil is Goldstone gravelly silt loam; however, little soil remains on the site due to heavy erosion. Highway relocation work has destroyed the northwest portion of the site.

Several shovel tests were spaced at 20 m intervals on transects across the ridge crest. Metavolcanic debitage was recovered.

The site has been disturbed by erosion and road construction. No further work is recommended at this site.

31Ch514 (82-426) Historic Cemetery

This site is a cemetery located on an upland ridgetop, 285 feet MSL, 400 yards west of the present Jordan Reservoir flood pool. The site is wooded in mature stands of mixed hardwoods. New State Road 1941 and old State Road 1941 intersect about 100 yards southwest of the site. 31Ch514 covers an area of 170

square yards, and includes at least nine marked graves. The cemetery apparently has not been maintained in many years, as most of the headstones are obscured by brush and leaves. Three of the markers are of gray marble; two bear inscriptions. The Russell and Clemie Burgess stone is standing upright and bears a date of 1902. The Mollie Burgess stone, dated 1893, was found lying on the ground, buried beneath a layer of leaves and humus. A third, small blank marble slab may represent an infant burial.

Eight markers of plain fieldstone were noted. Two grave-shaped depressions with a traditional Christian east-west orientation have fieldstone markers on both east and west ends. The other fieldstone markers are distributed in a less symmetrical fashion, with the location of the associated burials uncertain. A pair of large quartzite rocks may represent an additional burial. A 9-inch oak located near the cemetery center was used as a datum for mapping.

Shovel testing was confined to two transects of 20 m interval tests which were placed across the cemetery area to check for prehistoric components; none were found. Soils in the area were part of the Goldstone gravelly silt loam series. Presently, the soil cover is thin, less than 10 cm, over red clay.

This site should be avoided from adverse effects by construction projects. If construction is unavoidable then the human remains should be exhumed and taken to another graveyard. It is possible that relatives of the deceased still live in the project area. These individuals should be located and consulted if reinterment is necessary.

31Ch515 (82-427) Prehistoric Site

The site, a dense lithic scatter, is located on a flat wooded terrace remnant which presently forms a narrow peninsula extending northwestward into the Jordan Lake. The submerged channel of Windfall Branch lies approximately 200 m to the northeast. Site elevation averages 220 feet MSL with an indeterminate portion of the site submerged beneath the lake conservation pool level.

All visible tools and a representative debitage sample were collected from the shoreline. Shovel tests were placed at 10 m intervals across the terrace remnant. Seven shovel tests revealed cultural material. The stratigraphy includes 10 to 15 cm of White Store fine sandy loam capping the red clay substrate. Based on shovel test results and shoreline artifact distribution, observable site size was estimated at 1600 square meters. Cultural materials recovered from this site include three Savannah River, two Yadkin and one Badin projectile points, unifaces, bifaces, metavolcanic debitage, and fire-cracked rock.

The site has been heavily disturbed from inundation by the lake; however, some areas of the site still retain shallow soil development. It is recommended that an archeologist be present to monitor the site if adversely affected by construction activities.

31Ch516 (82-428) Prehistoric Site

This site is a shoreline lithic scatter along a terrace remnant projecting eastward onto the floodplain at the confluence of Windfall Branch and Parkers Creek. Elevation of the site was about 220 feet MSL, with portions of the site being inundated by the conservation pool of the Jordan Lake. The stream confluence lies less than 200 m east of the site.

All visible tools and a representative debitage sample were collected from the shoreline. Shovel tests were conducted at 10 m intervals along transects across the site. White Store fine sandy loam is reported for this area; however, as a result of erosion only subsurface red clay remains.

The artifact assemblage includes a St. Albans projectile point, unifaces, several bifaces, a core, and quartz and metavolcanic debitage.

This site has been heavily disturbed by inundation from the lake. No further work is recommended at this site.

31Ch517 (82-429) Prehistoric Site

This site is located at 220 feet MSL on a wooded terrace remnant projecting eastward onto the floodplain 200 m west of Parkers Creek. The lithic scatter was discovered along the shoreline in an area with good surface visibility. All artifacts observed on the surface were collected. Nine shovel tests were spaced at 10 m intervals across the narrow peninsula. The soil type for this area was recorded as Granville fine sandy loam; however, heavy erosion had removed all soil above the yellowish brown clay. Cultural materials recovered from the site consisted of metavolcanic debitage.

This site has been heavily disturbed by lake inundation. No further work is recommended at this site.

31Ch518 (82-430) Prehistoric Site

This sparse lithic scatter is located on a terrace nose 100 m north of a small unnamed stream. The site was in an overgrown field near the 216 foot MSL conservation pool shoreline. The artifact scatter extends less than 10 meters along the shoreline with cultural material visible beneath the present conservation pool level.

Shovel tests were placed at 20 m intervals across the site, resulting in one productive test unit. The soil was observed to be a sandy loam over clay and was defined as Wadesboro fine sandy loam. Cultural materials recovered from this site included metavolcanic debitage.

Due to most of this site being located beneath the conservation pool level of the lake, no further work is recommended at this site.

31Ch519 (82-431) Prehistoric Site

A thin, continuous lithic scatter, this site was located at intersecting dirt roads located on a flat knoll top at an elevation of 250 feet MSL. Recently the area had been planted in rows of pines. The site size defined by the road scatter was approximately 300 x 100 m. A small unnamed stream lay 220 m to the south.

All visible tools and a representative debitage sample were collected from the roads. Twenty-two shovel tests were placed on transects across the knoll; however, only three units produced cultural material. Mixing of clay and overlying sandy soil was evidence of site disturbance. The soil type for this area has been classified as a Goldstone gravelly silt loam.

Artifacts recovered from the site included one uniface, one biface, one core, and quartz and metavolcanic debitage. No diagnostic artifacts were recovered.

The site has been extensively disturbed by reforestation activities and erosion. No further work is recommended at this site.

31Ch520 (82-432) Historic Farmstead

On an upland ridgetop 260 feet MSL, this site lies 100 yards west of the shore of the Jordan Lake flood pool, formerly the drainage catchment of Parkers Creek. The site is heavily wooded in short leaf pine and mixed hardwoods. Soils in the area are included in the Georgeville silty loam series.

Elements composing this site appear to have been generated well into the twentieth century. A collapsed board structure exhibits such features as a poured cement floor, brick piers, and round wire nails, all diagnostic of twentieth century occupation. Sheet metal roofing fragments were not yet oxidized, retaining a shiny galvanized surface. Associated trash scatters included plastic detergent bottles, as well as styrofoam fragments.

A collapsed log structure east of the board building is also apparently of recent origin. Constructed of red pine, log remains are saddle notched, and retain traces of original tree bark. Round wire nails were also noted. A collapsed board structure, apparently representing the remains of a chicken coop, lies 50 yards southwest of the former log structure. Shovel testing failed to yield artifactual material indicative of any use of the site prior to the mid-twentieth century.

No further work is recommended at this site due to the frequency of similar structures occurring throughout the project area.

31Ch521 (82-433) Prehistoric Site

Discovered during systematic shovel testing of a flat, wooded knoll, this site is at an elevation of 250 feet MSL. Parkers Creek is located 260 m to the east. Widely spaced agricultural terraces had been constructed on the steeper slopes.

Shovel tests were spaced at 20 m intervals along the cardinal directions from the initial positive unit. Artifacts were recovered in five of these units. Field observations noted sandy loam capping sandy orange clay. The soil type is defined as a White Store fine sandy loam. Based on shovel test results, site size was estimated at 6400 square meters, covering the knoll top. Only debitage was recovered from the site.

Due to the presence of a thin layer of sandy loam capping the subsoil, it is recommended that an archeologist be present if the site is to be adversely affected by construction activities. Given that only debitage has been recovered from the site, it would be important to recover diagnostic material so that a temporal assignment can be made.

31Ch522 (82-434) Prehistoric Site

Located on a heavily eroded terrace remnant, this site lies at an elevation of 225 feet MSL. A small unnamed stream lies 140 m to the north. The area is presently a narrow peninsula protruding southeastward into the conservation pool lake level. Surface material was visible along the eastern shoreline and in a dirt road along the ridgecrest bisecting the peninsula. The scatter was spread across a 400 x 300 m area with two knolls showing denser surface concentrations than surrounding areas.

The site was divided into three collection loci. Two loci correspond to the areas of the site with greater density; the third unit consisted of the northern portion of the scatter. Shovel tests were spaced at 20 m intervals along transects across the site resulting in the recovery of cultural material from six of these. All visible tools and a representative debitage sample were collected from areas with good surface visibility. The assemblage included a broken Morrow Mountain II projectile point, bifaces, unifaces, quartz and metavolcanic debitage.

Road cuts, clearing, and trenching associated with recent logging operations had caused extensive site damage. An indeterminate amount of the eastern portion of the site had been inundated by Jordan Lake.

Because of the lake inundation and massive erosion along the conservation pool shoreline, no further work is recommended at this site.

31Ch523 (82-435) Prehistoric Site

This site is a sparse surface scatter found on a road through a flat wooded area. Elevation of the site was recorded as 230 feet MSL. A small unnamed stream lies 80 m to the north.

All artifacts visible on the surface were collected. Shovel tests were spaced at 20 m intervals along transects across the site. Soil classification for the location was recorded as White Store fine sandy loam; however, heavy erosion had left no topsoil remaining over the red clay. Artifacts recovered from the site included six bifaces, quartz and metavolcanic debitage.

Due to the massive erosion of the topsoil at this site, no further work is recommended.

31Ch524 (82-436) Prehistoric Site

This sparse lithic scatter is located on a wooded ridgetop in a dirt road at an elevation of 340 feet MSL. A small unnamed stream was located 280 m to the south.

Shovel tests were spaced at 20 m intervals in cardinal directions from a reference datum on the scatter. All the subsurface tests were unproductive. The soil type for this area is recorded as Orange silt loam; however, heavy erosion has removed all topsoil from the site, leaving only a thin layer of humus over the red clay substrate.

Due to the massive erosion of the topsoil at this site, no further work is recommended.

31Ch525 (82-437) Prehistoric Site

Eroding from a road cut along State Road 1715, this lithic scatter is located on a narrow flat knoll with a steep north slope. The southern and eastern slopes are more gentle. Windfall Branch lies 620 m to the northeast and an intermittent stream is located 250 m to the west. The site is presently covered with pines and scrub brush. Two road cuts and heavy sheet erosion with associated gullies have severely damaged the site. The soil type for this area had been recorded as Orange silt loam.

Shovel tests were placed at 20 m intervals on transects across the site. One of twenty shovel tests produced cultural materials. The assemblage includes a Halifax projectile point, two non-diagnostic bifaces and metavolcanic debitage.

Due to disturbances resulting from erosion, no further work is recommended at this site.

31Ch526 (82-438) Historic Farmstead

Located on an upland ridgetop 260 feet MSL, overlooking the Jordan Lake, the site is 100 yards west from the point where old State Road 1941 vanishes into the Jordan Lake flood pool. The site is defined by the remains of a structure located in the northwest extremity of an overgrown field of about 40 acres. The site lies on a forest edge of mature stands of short leaf pine and mixed hardwoods. Soils in this area consist of a thin veneer of Goldstone gravelly silt loam over red clay.

Structural remains consist of six dry-laid fieldstone piers, decayed lumber, and a cellar depression 3 to 4 feet deep. These elements delineate a rectangular structure 24 feet east-west and 19 feet north-south. A single pier and horizontal layer of rotted board may represent a porch about 10 feet wide, on the west side of the former structure. Included in the wooden remains is a hewn,

socketed beam 10 feet in length, and 1 foot square. Clapboard remnants were also noted. No structural elements associated with a chimney structure were observed; however, stove pipe fragments were noted. Machine-cut square nails and round wire nails were associated with the debris.

A series of 20 m interval shovel tests was placed in the clearing east of the site. These tests yielded nineteenth century artifactual material, including square cut nails, bottle glass, and ceramic fragments. An artifact scatter of about 50 x 50 m lies east of the site. A prehistoric site, 31Ch526, was discovered 50 m east of the former structure.

This historic site is judged significant for understanding early historic settlement strategies in the New Hope River Valley. It is located in the proposed National Register District.

31Ch527 (82-439) Prehistoric Site

This site was recorded during systematic shovel testing of a grassy ridge nose near an abandoned dwelling. Elevation of the site is approximately 245 feet MSL. Windfall Branch is located 300 m to the northeast.

Shovel tests were spaced at 10 m intervals on transects across the area. Two of the shovel tests produced cultural material. Soil development was variable across the site with most areas eroded down to the red clay substrate. Soil type for this location is a Goldstone gravelly silt loam.

This site has been heavily disturbed by soil erosion and no further work is recommended.

31Ch528 (82-440) Prehistoric Site

A sparse lithic scatter, this site lies in a pine plantation on a partially submerged flat terrace remnant of the Jordan Lake conservation pool at 216 feet MSL. Windfall Branch channel lies 100 m to the northeast. Soil for this area is classified as Goldstone gravelly silt loam; however, due to subsoil plowing and heavy erosion, little topsoil remains over the red clay substrate.

All material observable on the surface was collected. Shovel tests were spaced at 10 m intervals in cardinal directions from a reference datum. One test unit produced cultural material. Artifacts recovered from the site included two bifaces and metavolcanic debitage.

Due to disturbances resulting from soil erosion, no further work is recommended at this site.

31Ch529 (82-441) Prehistoric Site

This sparse lithic scatter was exposed by erosion along the conservation pool shoreline. The site is located on the south slope of a pine covered knoll at an elevation of 220 feet MSL, with portions of the site extending below the

conservation pool shoreline. A small unnamed stream lies 180 m to the south. Shovel tests were placed at 20 m intervals in cardinal directions around the surface scatter. Soil type for the location was defined as Roanoke silt loam. Heavy erosion was evident; only bare clay remained. One quartz and 7 metavolcanic pieces of debitage were collected.

This site has been heavily disturbed by soil erosion due to fluctuating lake levels. No further work is recommended.

31Ch530 (82-442) Prehistoric Site

This surface scatter was found in a road on the southeastern slope of a low knoll at an elevation of 230 feet MSL. New Hope River is 400 m east of the site. Soil type for the location is defined as Roanoke silt loam. The site was heavily eroded with no soil remaining over sandy yellow clay. A total surface collection from the road indicating a site less than 100 square meters in size recovered quartz and metavolcanic debitage and one Palmer point. Shovel tests at 20 m intervals in cardinal directions failed to produce cultural material.

Soil erosion at this site has greatly disturbed this site's integrity. No further work is recommended.

31Ch531 (82-443) Historic Farmstead

31Ch531 was discovered while completing a shoreline survey of the west side of the Jordan Lake. It is located on an upland ridge at 260 feet MSL, and is now adjacent to the reservoir flood pool. The site is wooded with mature stands of short leaf pine and mixed hardwood. Soil composition in the area is classified as Roanoke silt loam. An abandoned segment of railroad runs along the reservoir shore here, in a northwesterly direction.

31Ch531 includes the remains of a structure, associated historic artifact scatter, and an open well. Structural remains composing the core area of the site are located 30 m west of the flood pool. Preservation was poor, with only stone building materials remaining. Three dry-laid fieldstone piers were noted. Two of these lay 12 feet apart in a north-south orientation. Two piles of fieldstone rubble, about 3.5 feet high, may represent chimney falls. Pile A is 12 feet long on a north-south axis, and five feet wide from east to west. Twenty feet due east is Pile B, 10 feet long on its north-south axis, and about six feet wide. A datum was established, using a tree midway between the rubble piles. Fifteen yards southeast of the datum is an open well. Fieldstone lined, it is a yard in diameter, and filled with water to about a yard from ground level.

A thin nineteenth century trash scatter covers a 900 square meter area around the structure. Surface collection was fruitful where portions of the site were eroding into the lake from wave and boat wake action. A pile of debris and rubble 36 feet north of the datum also yielded artifactual material. Square cut nails, bottle glass, and ceramic fragments were recovered. Five shovel tests were dug in the site area, with one in the center of the former structure. Other shovel tests were put in outside of the estimated location of the north, south, east, and

west walls. No artifactual material was recovered from these shovel tests. Soil and humus cover was shallow, less than 10 cm over sterile red clay.

Although the structural remains at 31Ch531 were poorly defined, the presence of a well and dual chimney falls strongly suggests that it represents a house occupied into the late nineteenth century.

The dilapidated condition of the structural remains and heavy erosion at the site have greatly diminished this site's potential for data recovery. No further work is recommended.

31Ch532 (82-444) Prehistoric Site

This site was recorded as a surface scatter extending 100 m along the 216 foot MSL conservation pool shoreline. The site is located on the southeastern edge of a terrace overlooking New Hope River that lies 150 m to the east. The site is presently in a pine plantation. Disturbances include subsoil plowing, a railroad cut, and erosion due to lake level fluctuations. A total collection of the surface scatter produced 4 quartz and 6 metavolcanic pieces of debitage, three bifaces, one uniface, and a steatite vessel fragment. Twenty-one shovel tests were placed at 20 m intervals along transects across the terrace. None of the subsurface units produced cultural material. Soil disturbance was evident from the mixing of sandy loam with chunks of the red clay substrate. Soil type for the location is Roanoke silt loam.

Due to heavy soil erosion resulting from lake level fluctuations, this site's integrity has been destroyed. No further work is recommended.

31Ch533 (82-445) Prehistoric Site

This large lithic scatter located on the southeastern slope of a terrace remnant at an elevation averaging 235 feet MSL, with portions of the site lying near the 216 foot MSL conservation pool shoreline toward the southeast. The surface rises at an estimated 8° toward a low knoll 200 m southwest of the center of the scatter. A small unnamed stream is 300 m northeast of the site. The site was located in a harvested field. Due to good surface visibility and widespread (5,000-10,000 square meters) artifact distribution, representative samples of artifact classes were collected. Transects were placed at 10 m intervals with all visible material collected. Shovel tests were placed at 20 m intervals across the site. Fifteen cm of sandy loam capping the clay substrate were observed in the shovel tests. Soil on the site had been classified as Altavista fine sandy loam. Artifacts recovered included 35 pieces of metavolcanic debitage, two unifaces, four bifaces, and three Savannah River points.

While this site has been subjected to major disturbances by soil erosion, some areas still retain shallow topsoil deposits. If this site is adversely affected by construction activities, an archeologist should be present to monitor areas still retaining soil development, checking for possible features and temporally sensitive artifact categories.

31Ch534 (82-446) Prehistoric and Historic Artifact Scatter

This light lithic scatter was discovered in an agricultural field on the east edge of a small terrace knoll at an elevation of 240 feet MSL. A small unnamed stream is 400 m to the south. All visible material was collected from the surface. Shovel tests were placed at 20 m intervals along transects across the knoll. Erosion was light across the area with over 10 cm of sandy loam capping yellow clay. Soil type for the location was defined as Altavista fine sandy loam. Two quartz and 7 metavolcanic pieces of debitage were collected from the site. Also, historic artifacts including three pieces of white ware, one piece of miscellaneous earthenware and one machine-cut nail were recovered.

Although it retains shallow topsoil deposits, the site has been heavily disturbed by agricultural plowing. No further work is recommended.

31Ch535 (82-447) Prehistoric Site

This sparse lithic scatter lies on the southeastern slope of a heavily eroded terrace. The site was on a narrow pine-covered peninsula at an elevation of 220 feet MSL. A small unnamed stream is 200 m to the southwest. A total surface collection recovered one quartz and three metavolcanic pieces of debitage. No shovel tests were placed in the area due to extreme erosion and steep slopes. Soil type for the location was defined as White Store fine sandy loam.

Due to severe soil erosion at the site, no further work is recommended.

31Ch536 (82-448) Prehistoric Site

This site extends 400 m across a field on a ridge descending gently toward the east-northeast. Average elevation is 240 feet MSL. A small unnamed stream is 300 m to the south and Bush Creek lies approximately 350 m to the north. At the time of this survey, the field was planted in wildlife browse, which allowed only partial ground visibility. A field road along the ridge crest contained a continuous lithic scatter with increased density on each of three low knolls along the ridge. For testing and collecting purposes, the site was divided into collection areas defined by the three knolls. All visible material was collected. The assemblage includes a Hardaway side-notched base, unifaces, bifaces, and quartz and metavolcanic debitage. More than 40 shovel tests were placed on transects across the area. None of the subsurface units produced cultural material.

Soil composition varied across the site. Most areas exhibited a thick layer of sandy loam capping the clay substrate. Light erosion was evident on steeper slopes. Soil type for the location was recorded as White Store fine sandy loam.

A local informant allowed the crew to examine and photograph an artifact collection taken from a vegetable garden near the west end of the site. The collection included a variety of projectile points spanning Early Archaic through Late Woodland periods.

This site has been heavily disturbed by plowing and local pot hunters who have collected the site for many years. No further work is recommended.

31Ch537 (82-449) Prehistoric Site

This site was discovered during systematic shovel testing of an old field on an upland ridge. Site elevation is 310 feet MSL. Shovel tests were placed at 20 m intervals along transects in cardinal directions from the initial site contact. Three pieces of metavolcanic debitage were recovered from the one productive unit.

Due to low artifact densities and soil erosion occurring on the site, no additional work is recommended.

31Ch538 (82-450) Historic Farmstead

31Ch538 is located on an upland ridge 300 feet MSL, 80 yards west of the Jordan Lake. Natural topography of the site has been obscured by construction of U.S. Route 64, which passes 150 yards south of the site. The site and environs are wooded with mature stands of pine and mixed hardwoods. Soils in the area are included in the Georgeville gravelly silty clay loam series.

31Ch538 (see Figure 15) is defined by the fieldstone and timber remains of three structures and associated artifact scatter. Remains representing a dwelling consist of dry-laid fieldstone piers, timbers, and two partially standing fieldstone chimneys. Delineated are foundations of a double-pen house, with chimneys on the west and south walls. The east pen measures 14 feet north-south by 15.3 feet east-west; the west pen measures 16 feet north-south by 18 feet east-west. The south chimney, constructed of fieldstone, stands to a height of 12 feet although it has partially collapsed to reveal its interior. A 4 x 4 inch beam, 50 inches in length, lies among the fieldstone rubble at the chimney's base, probably the well-preserved lintel of the chimney. The west chimney remains stand 9 feet high with the hearth well-preserved. The lintel is of iron, and loose bricks were found in place on the hearth floor. Brick construction of the west chimney suggests that it was rebuilt or built later than the east chimney. Possibly the entire west pen may represent a later addition to the original east pen. This proposal is supported by timber remains. Of particular interest is the intact northwest corner of the east pen, where 10-inch beams have been square-notched, then faced with heavy clapboard. This framing method is associated with structures constructed before 1820. Clapboard, normally an exterior treatment, is still in evidence on the interior wall separating the two pens.

Two 1 x 1 m excavation units were installed near the estimated centers of both pens. They were excavated to a depth of 10 cm in the east pen, and 6 cm in the west pen. All soil was screened through 1/4 inch mesh. Recovered were machine-cut square nails and ceramics. Prehistoric materials recovered from the east pen were probably deposited long before construction took place.

A twentieth century component was noted east of the pen foundations. Wooden sills lying on fieldstone piers outline a foundation 22.5 feet north-south by 16 feet east-west. Remains of a 1.6 foot square cemented brick chimney exist on

the foundation's east side. Beams composing the sills are hewn and are studded with both machine-cut square and round wire nails. This suggests that building materials may have been salvaged from the older dwelling.

Fifty yards east of the double pen structure is a 2 foot high fieldstone foundation representing the remains of a tobacco barn. Flue openings exist in the center of the north and south foundation walls. The foundation measures 14.5 feet north-south by 11 feet east-west. Shovel testing yielded no artifactual material.

Eight yards southeast of the former dwelling are the remains of an additional outbuilding. It is defined by fieldstone rubble, milled board, and metal roofing fragments. Round wire nails used in construction place the structure in a twentieth century context. A shovel test placed near the estimated center of the former structure produced a bottle fragment postdating 1933. Additional information regarding the material culture of this site is provided on page 196.

This multicomponent historic site is judged significant for understanding early historic settlement strategies in the New Hope River Valley. It is included in the proposed National Register District.

31Ch539 (82-451) Historic Farmstead

This homestead is located on an upland ridge at 260 feet MSL, overlooking the Jordan Lake which lies 100 yards east of the site. The lake flood pool in this area has inundated the former catchment and floodplain of Parkers Creek. The site and surrounding environs are wooded in mature stands of short leaf pine and mixed hardwoods. Soils are included in the Georgeville gravelly silty clay loam series. Soil cover is a thin veneer, less than an inch in depth, overlying sterile red clays.

31Ch539 (Figure 16) includes the remains of a structure and an associated artifact scatter measuring 70 x 70 yards in size. An intermittent stream lies 200 feet north of the site. It runs in an easterly direction towards Jordan Lake. A two-track roadway lies on the west edge of the site. This roadway, still in use by recreational vehicles, continues north about 400 yards, leading to the remains of 31Ch541, a yeoman plantation site. The sites are contemporaneous, and may be closely associated.

Structural remains consist of dry-laid fieldstone piers and two partially standing fieldstone chimneys. Also present are wooden remnants of floor sills, square-notched wall timbers, and clapboard fragments. Clearly delineated are the outlines of four pens, arranged in a T-shape. Pens average about 16 feet on a side, dimensions associated with housing designs of English origin. Chimneys are located on the north and west sides of the former structure. Wooden sills, 9 inches square, are resting intact upon fieldstone piers in the south pen.

The site was surface collected and shovel tested. Subsurface testing also included two 1 x 1 m units excavated in the north and central pens. Recovered from the ground surface was a stone writing slate found inside the house foundation. Historic ceramics were found six feet east outside of the east pen. Excavation units revealed a shallow midden existing inside the pens tested. Items recovered during excavation included machine-cut square nails. Excavation was

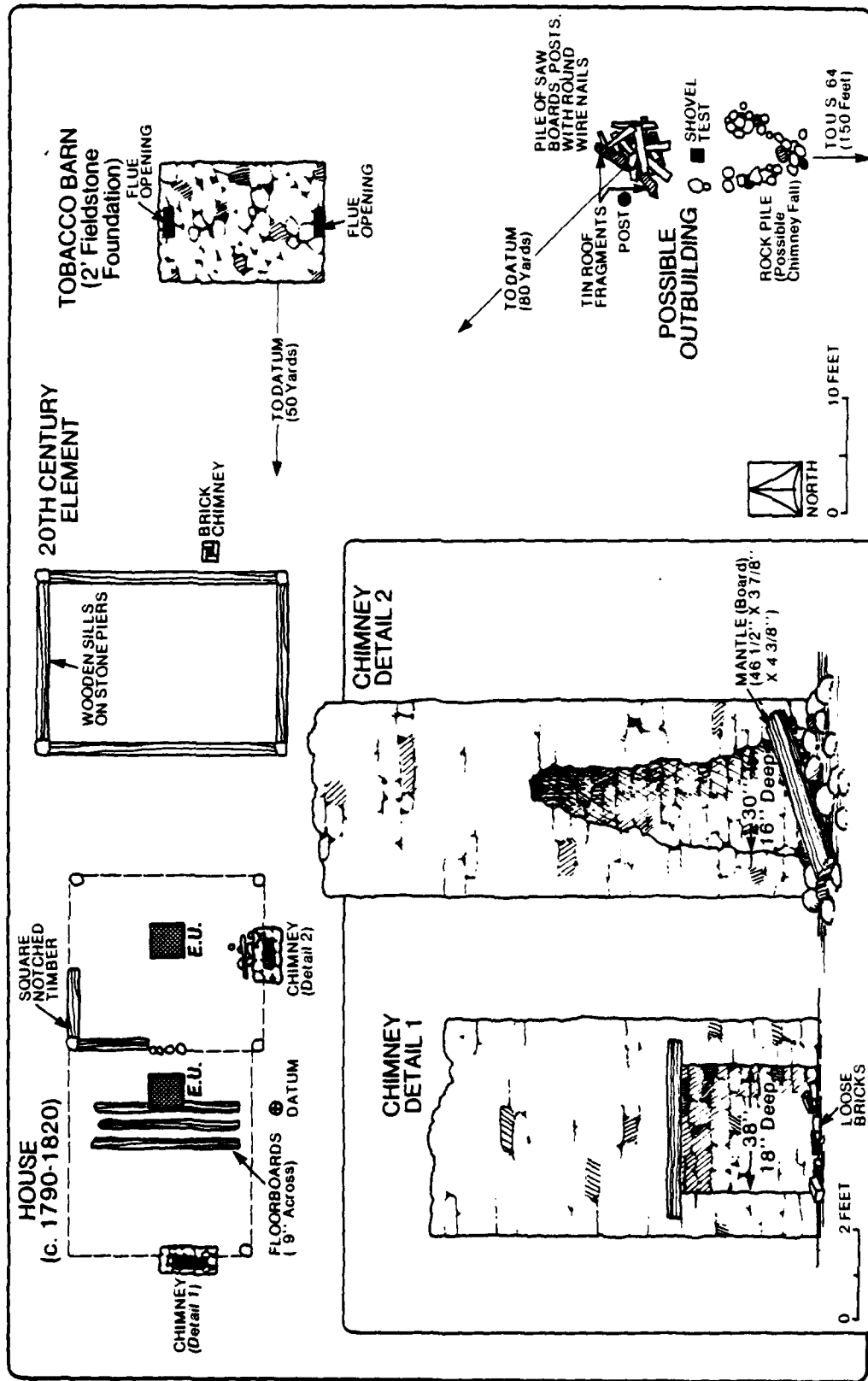
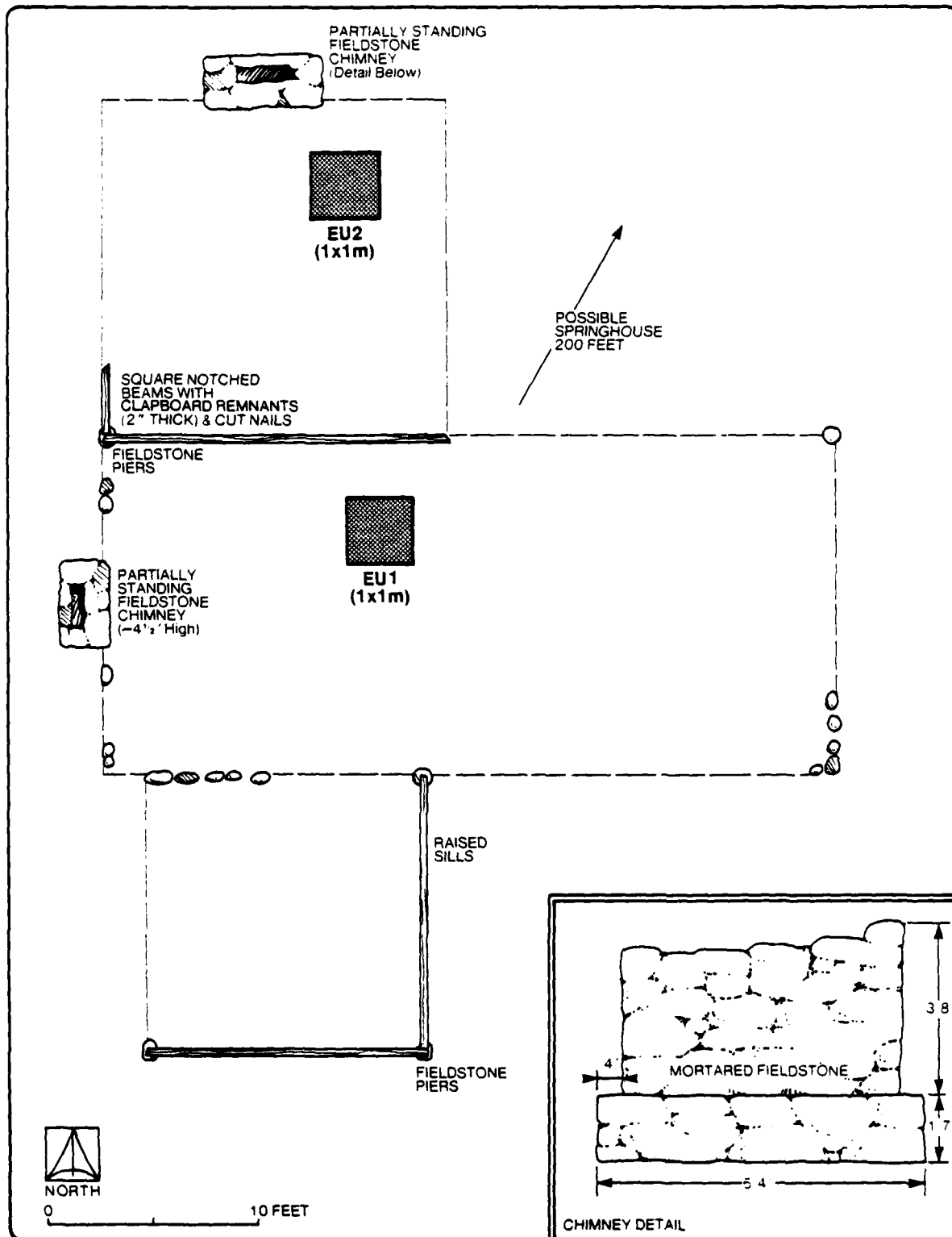


FIGURE 15
PLAN VIEW-SITE 31Ch538

CULTURAL RESOURCES SURVEY OF PROPOSED
 RECREATION & WILDLIFE AREAS AT THE
 B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA
 COMMONWEALTH ASSOCIATES, INC.



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FIGURE 16
PLAN VIEW-SITE 31Ch539

completed to a depth of 10 cm below ground surface, at which point sterile soil was reached. All generated backdirt was screened through 1/4 inch mesh. Soil was heavily mixed with decomposing wood.

An accumulation of undifferentiated fieldstone rubble lies adjacent to the intermittent stream. The remains are very poorly defined, but the location suggests they may represent a crude springhouse.

This historic site is judged significant for understanding early historic settlement strategies in the New Hope River Valley. It is included in the proposed National Register District.

31Ch540 (82-452) Historic Structure

This site is located on a terrace remnant 260 feet MSL, west of the Jordan Lake conservation pool shoreline. 31Ch540 is about 50 m south of 31Ch541, a plantation site, and about 100 m north of 31Ch539, another substantial farmstead site. 31Ch540 may well be associated with one or both of these sites, but, due to this ambiguity, was accorded a separate site designation. Surrounding vegetation is mature short leaf pine and mixed hardwood forest. An intermittent stream, 20 yards south, runs in an east-west direction. A two-track roadway crosses the stream, passing 2 m south of the site.

The site consists of the remains of a small square building as evidenced by a depression in the earth measuring 14 feet on a side. Dry-laid fieldstone piers mark the northwest and southwest corners. A pile of fieldstone and brick fragments was found on the east side of the foundation, probably representing the remains of a chimney fall or horizontal flue such as those associated with tobacco barns. On top of the rubble pile were remnants of rotted clapboard.

A shovel test was put in at the apparent center of the former structure. Soil consisted of a fine sandy loam. Recovered from subsurface testing were whiteware ceramics and machine-cut square nails. A 4 foot-4 inch iron carriage wheel rim was located near the surface beside the south wall. No further evidence of possible building function was noted.

This historic site is judged significant for understanding early historic settlement strategies in the New Hope River Valley. It is located in the proposed National Register District. Further work should be directed toward associating this structure with site 31Ch539 or 31Ch541.

31Ch541 (82-453) Historic Plantation

31Ch541 is located on a terrace remnant 255 feet MSL, 300 feet west of the Jordan Lake. The lake flood pool in this area has inundated former bottomland and floodplains adjacent to Parkers Creek. The site and surrounding environs are heavily wooded with mature stands of short leaf pine and mixed hardwoods. Soils in the area are included in the Georgeville gravelly silty clay loam series. The terrace slopes downhill with a gradient of about 15 percent toward the reservoir. At least two adjacent historic sites very likely were directly associated and contemporaneous with 31Ch541. 31Ch540 lies 90 feet south of the 31Ch541, and

represents the remains of a small structure. 31Ch542, a slave cemetery, lies 400 yards northeast of site 31Ch541.

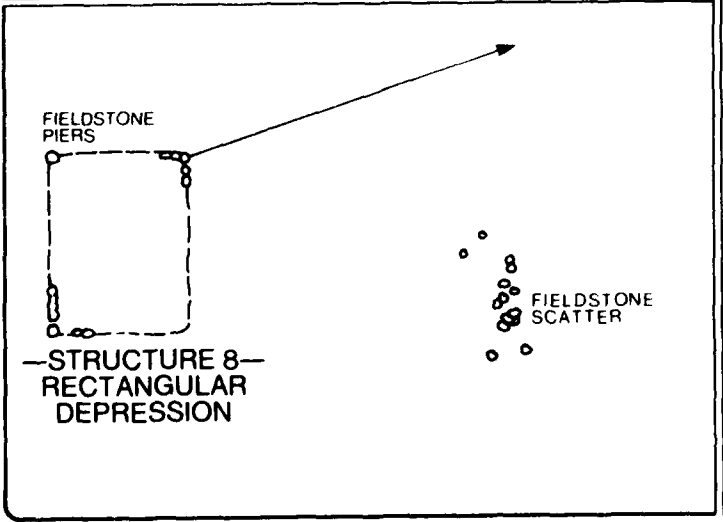
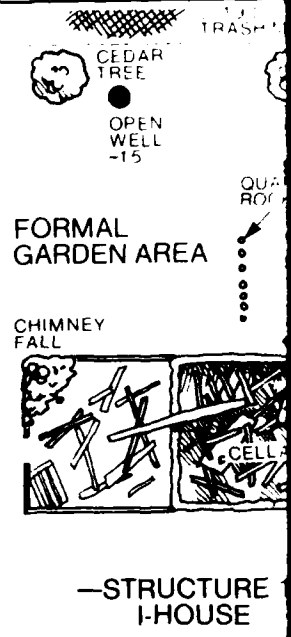
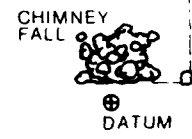
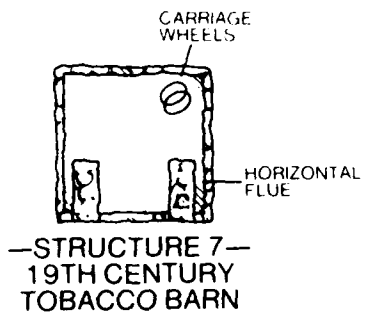
31Ch541 (Figures 17 and 18) includes the remains of eight structures, an open well, and overgrown remnants of a formal garden. Structure One consists of a rectangular foundation measuring 17.5 feet north-south by 38 feet east-west, cellar, and standing chimney of a two-story I-house. The east half of the foundation features a full cellar, lined by fieldstone walls 2 feet thick. The cellar is 6 feet in depth, and is partially filled by decomposing boards. A depression 5 feet deep was noted adjacent to the southeast corner of the foundation, representing an outside entrance to the cellar. The west half of the foundation is outlined by dry-laid fieldstone piers. Mortared fieldstone on the structure's northeast corner rises to a height of 7 feet, and fieldstone rubble, representing a chimney fall, has spilled into the eastern half of the foundation. At the center of the east wall is a massive, 30 foot chimney constructed of mortared red brick. The hearth, 6.5 feet wide, has a wooden lintel still intact. A roof line is still visible 27 feet above ground surface.

Wooden remains are plentiful at the main house, consisting of socketed beams and milled clapboard. Machine-cut square nails were found still in place on much of the clapboard. Structural beams were held together by mortise and tenon. Subsurface testing of Structure 1 and surrounding grounds consisted of shovel tests placed at 10 m intervals. A datum was established, using a tree 1 m south of the chimney fall associated with Structure 2. These tests yielded historic artifactual material, including glass, ceramic, and metal artifacts. In addition, a prehistoric site was located 20 m due south of the datum, consisting of lithic debitage. Surface collection was difficult due to the dense vegetation covering the site. A trash scatter was located north of the garden area. Materials here indicate numerous dumping episodes occurring circa 1930-1940. Deeply buried deposits of older trash midden are possible in this location.

North of the I-house foundation are the overgrown remains of a formal garden. An ornamental shrub near the former dwelling's northeast corner has grown to enormous proportions, attaining a height of over 20 feet. Subsurface testing revealed a line of quartzite rocks leading north from the former dwelling. These probably served to delineate a garden path. A heavy ground cover of myrtle covers the garden area, covering an area of about 1800 square feet. Three living cedar trees were noted in an east-west line near the garden area's north edge. They are four feet in diameter, suggesting an age of around 150 years. Also noted were scattered clumps of tiger lily as well as unidentified domestic flowers and shrubs.

An open well lies 30 feet north of the former I-house. Three feet in diameter, it is water-filled 15 feet below ground surface. The mouth of the well was completely hidden by the myrtle growth. Blaze orange flagging tape was placed around the well as a visual warning and barrier, and personnel from the Corps of Engineers were notified of this potential hazard.

Structure 2 is located 5 feet west of the former I-house. It is defined by dry-laid fieldstone piers outlining a rectangular foundation 30 feet north-south by 12 feet east-west, and a fieldstone chimney fall. The chimney constitutes most of the foundation's south wall. This structure very likely represents the remains of a kitchen, commonly associated with substantial southern dwellings constructed before 1850.



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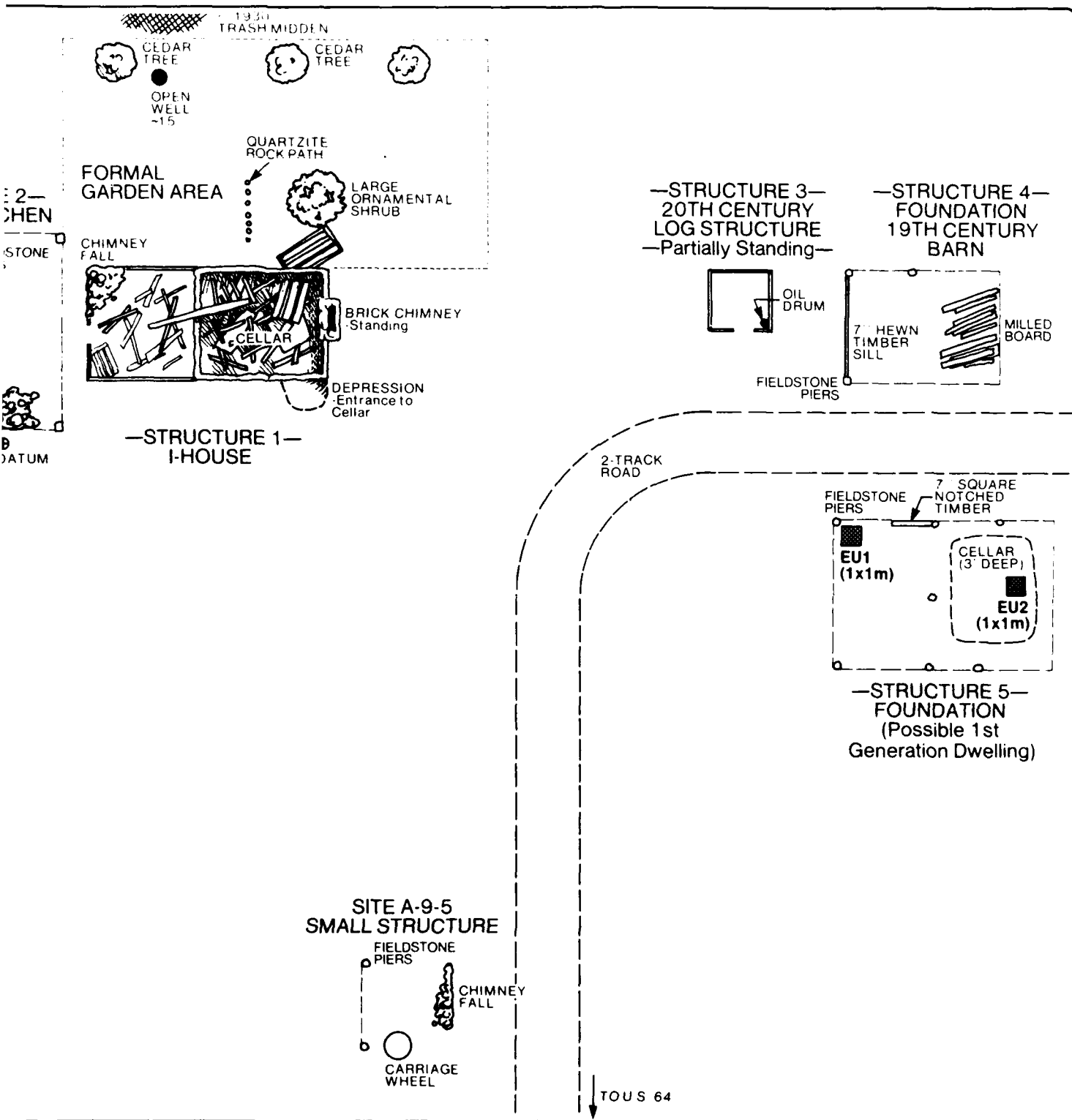


FIGURE 17
PLAN VIEW-SITE 31Ch541

A. Standing chimney on east wall of I-house foundation.



B. Detail of mortice & tenon on I-house remains.

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FIGURE 18
31Ch541

Structure 3, constructed of saddle-notched pine logs and still partially standing, is located 60 feet west of the former I-house. Bark remains on the logs, and round wire nails were used in construction. Measuring 10 feet north-south by 10 feet east-west, log walls rise to a height of four feet. A metal 50-gallon oil drum stands inside the structure's southeast corner. A doorway cut into the south wall is three feet wide. This structure represents an outbuilding constructed well into the twentieth century, associated with late use of the site.

Twelve feet due east of Structure 3 is Structure 4. This structure has completely collapsed, although its wooden components are intact. Delineated by dry-laid fieldstone piers and remaining sills is a rectangular foundation measuring 18 feet north-south by 24 feet east-west. Collapsed walls are composed of 2 x 4's and clapboard. Both machine-cut square and round wire nails were used in construction. Much of the lumber used was milled; however, several larger beams were hewn, and show evidence of mortise and tenon technique. This suggests that some lumber used in construction or subsequent repair was salvaged from an earlier structure. Galvanized metal roofing was also noted. Structure 4 probably represents a stable or storage barn, used well into the twentieth century.

Structure 5 is located 22 feet south of Structure 4, and 80 feet southeast of the former I-house. It is defined by dry-laid fieldstone piers and scant timber remains indicative of a rectangular foundation 23.5 feet north-south by 34 feet east-west. The former structure evidently had two pens.

The east pen of Structure 5 is square, measuring 24 feet on a side. A depression averaging three feet deep exists inside the entire east pen foundation, and represents a shallow cellar. The west pen includes the west 10.5 feet of the foundation. Partial remains of 7 inch square-notched beam and clapboard siding were noted on the west and north foundations of this pen. No chimney fall was noted; however, this may represent salvage of chimney materials for use elsewhere on the plantation. Subsurface testing of Structure 5 included shovel tests inside the foundation walls. A 1 x 1 m unit was excavated inside the northwest corner of the foundation to a depth of 10 cm and screened with 1/4 inch mesh. Recovered was a fragmentary stoneware vessel, and over 100 specimens of metal hardware, numerous harness parts. An additional 1 x 1 m unit was excavated slightly east of center inside the former cellar. It was excavated to a depth of five cm before sterile clay was reached. Recovered were numerous machine-cut square nails and a single ceramic fragment.

Structure 5 probably represents the remains of a dwelling, perhaps a first generation house. Architectural evidence suggests it may pre-date the larger I-house which was perhaps erected as the farmstead expanded, growing into a small plantation by the mid-nineteenth century.

Structure 6 is located 80 feet northwest of the former I-house. It is defined by a rectangular, full foundation of fieldstone 2.5 feet high, measuring 17 feet north-south by 10 feet east-west. Remnants of rusted sheet metal were noted and may represent siding or roofing.

Structure 7 is located 140 yards west of the I-house. It is defined by a well-constructed foundation wall of stacked fieldstone averaging about 1.5 feet in height. Nearly square, it measures 17.5 feet north-south by 18 feet east-west. Also constructed of fieldstone are a parallel pair of flues extending from the south

foundation wall, resting horizontally on the structure's floor. They are three feet wide and hollow. Openings 1.5 feet wide along the south foundation wall allow access to their interiors. Flues of this type are associated with early tobacco barns.

Shovel tests were placed inside the foundation walls where a hoe blade was recovered. Also noted under several inches of leaves and humus were the remains of a pair of carriage wheels, which apparently had rotted in place. Metal wheel rims encircled wooden remnants of spokes and hubs. These were left in place after being photographed in situ.

Structure 8 was discovered 42 yards west of the former tobacco barn. It is poorly defined, consisting of several dry-laid fieldstone piers and a shallow rectangular depression measuring 21 feet north-south by 16 feet east-west. A scatter of large fieldstones was noted 12 yards east of Structure 8, and may represent discarded construction debris or perhaps the remains of yet another structure.

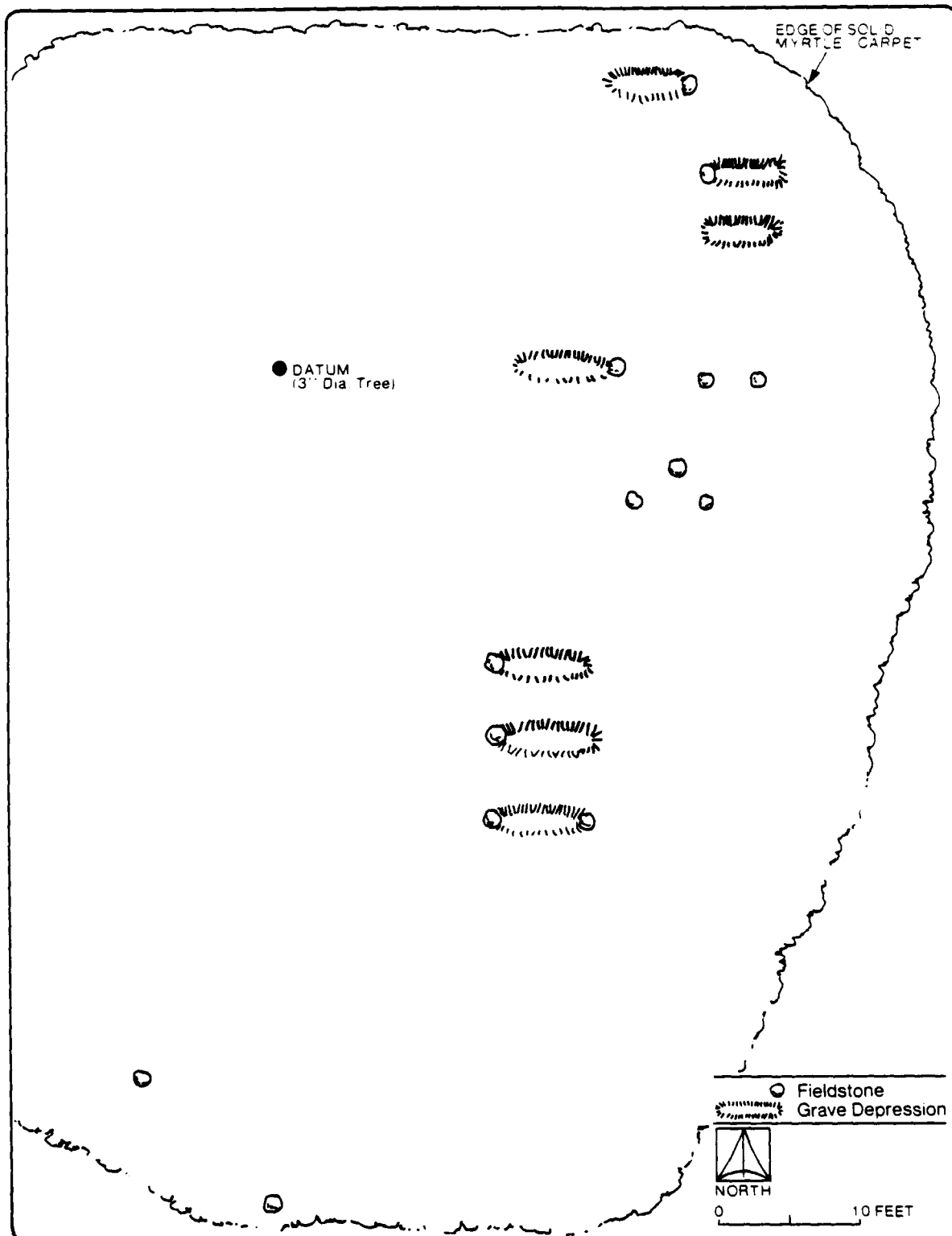
Additional information pertaining to the artifacts recovered from this site are provided on pages 203 through 205 of this report.

This historic site is judged significant for understanding early historic settlement strategies in the New Hope River Valley. It is located in the proposed National Register District.

31Ch542 (82-454) Cemetery

31Ch542 is a cemetery located on a terrace remnant at 270 feet MSL, 300 m west of the Jordan Lake conservation pool shoreline. 31Ch541, a plantation site, is situated 400 m southwest of the cemetery, and it seems certain that the two sites are associated and contemporaneous. 31Ch542 is near the terminus of a faintly visible roadway leading from 31Ch541 through wooded areas of short leaf pine and mixed hardwoods. The site (Figure 19) is defined by 14 headstones of unmarked fieldstone, protruding through a dense ground cover of myrtle, with a total area of about 300 square yards. A large elm tree, with a diameter of 120 cm, shades the site. It is located on the northeast extremity of the site and was used as the datum from which the graves were mapped. Grave-shaped depressions adjacent to the fieldstone markers indicated an east-west orientation of the burials, which is consistent with Christian mortuary tradition. The undulating surface of the site suggests that additional, unmarked burials may be present. Shovel testing was confined to a 10 m interval transect to check for prehistoric components; no cultural material was found, however. The morphology of 31Ch542 indicates that it very likely represents a slave cemetery.

This site is considered significant as it represents a segment of site 31Ch541. If adversely affected by proposed construction activities, plans should be made for reinterment of the burials at a different location. Site 31Ch542 is located in the proposed National Register District.



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FIGURE 19
PLAN VIEW-SITE 31Ch542

31Ch543 (82-455) Historic Farmstead

31Ch543 is located on an upland ridge at 375 feet MSL, 260 yards west of the Jordan Lake flood pool, formerly the drainage basin of Parkers Creek. The site and environs are thickly wooded with mature stands of pine and mixed hardwoods. Soils in the area are included in the Georgeville gravelly silty clay loam series. New State Road 1941 borders the east edge of the site. The road cut has exposed the westernmost area of the site, and the action of logging and heavy equipment has inflicted heavy to moderate damage on this portion of the site.

31Ch543 (Figure 20) consists of the remains of five structures and associated artifact scatter. Structure 1 represents the remains of a dwelling, including a standing chimney, a fieldstone chimney fall, and timber fragments. Road building and clearing activity has destroyed any foundation outlines or piers which may have delineated the dimensions and shape of the former structure. The standing chimney, 20 feet high, is constructed of mortared fieldstone and is visible from new State Road 1941. It is five feet wide at the base, tapering to a width of about 2.5 feet at a point 10 feet above ground surface. The hearth has a wooden lintel intact and opens to the east. Thirty feet northeast of the standing chimney is a pile of undifferentiated fieldstone representing a chimney fall. This suggests a dwelling of some size, very likely having multiple pens in an L-shape configuration. Remains of a farmhouse of this type exist at site 31Ch538, a contemporaneous historic farmstead located about one-half mile southeast of 31Ch543.

One by one meter excavation units were dug in the approximate center of the estimated location of the former dwelling's north and south pens, using the chimneys as reference points. The units were excavated to a depth of five cm, at which point sterile clay was recorded. All soil was screened through 1/4 inch mesh. Machine-cut square nails and other metal artifacts were recovered. Surface collection of the area resulted in the recovery of an iron stirrup. Timber remains included fragmentary 9 inch square hewn beams, and clapboard. Both machine-cut square nails and round wire nails were noted.

Outbuilding 1 is located 83 yards north of the dwelling, and probably represents a structure. Delineated by dry-laid fieldstone piers is a foundation 9 feet north-south by 12 feet east-west. A six inch red pine was noted growing inside the foundation, suggesting abandonment occurring at least 15 years ago. Rotted timber remnants evidenced construction using round wire nails.

Outbuilding 2 was found 86 yards northeast of the former dwelling, and probably represents the remains of an additional outbuilding. Delineated by dry-laid fieldstone piers is a rectangular foundation measuring 14 feet north-south by 22 feet east-west. Still in place upon piers of the south and east wall are sills of unhewn cedar logs, 9 inches in diameter. Twenty-five yards east of the structure is a poorly defined two-track roadway which goes in a northwest direction until it ends at the road cut of new State Road 1941.

Thirty yards due east of Outbuilding 2 is Outbuilding 3, probably representing the remains of a small barn or stable. It is poorly defined by rotted timber and remnants of fieldstone piers indicating a rectangular foundation 26 feet north-south by 14.5 feet east-west. Round wire nails were used in its construction. A concentration of rotted lumber on the foundation's east side may represent a former porch or roofed area.

One hundred sixty-five yards southeast of the former main house is Outbuilding 4, a crude but still standing springhouse. Constructed of scrap lumber covered with metal roofing material, Outbuilding 4 is a roofless platform. A small spring exists four feet below the platform. Water from the spring flows in a westerly direction, downhill toward the Jordan Lake. Erosion has removed much of the soil beneath the platform. This springhouse was constructed recently, probably within the last 30 years.

31Ch543 represents a nineteenth century farmstead apparently occupied or at least utilized well into the twentieth century.

This site is considered significant for understanding early historic settlement strategies in the New Hope River Valley. It is located in the proposed National Register District.

31Ch544 (82-456) Prehistoric Site

This site is located on a flat terrace west of Parkers Creek at an elevation of approximately 230 feet MSL within the Jordan Lake flood pool. Two flakes were surface collected from this site discovered on a dirt road along the terrace. Shovel tests were placed at 10 m intervals in cardinal directions from the center of the scatter. None of the subsurface units produced cultural material. Soil type for the location is listed as White Store fine sandy loam.

This site has been severely disturbed by soil erosion and road construction activities. No further work is recommended.

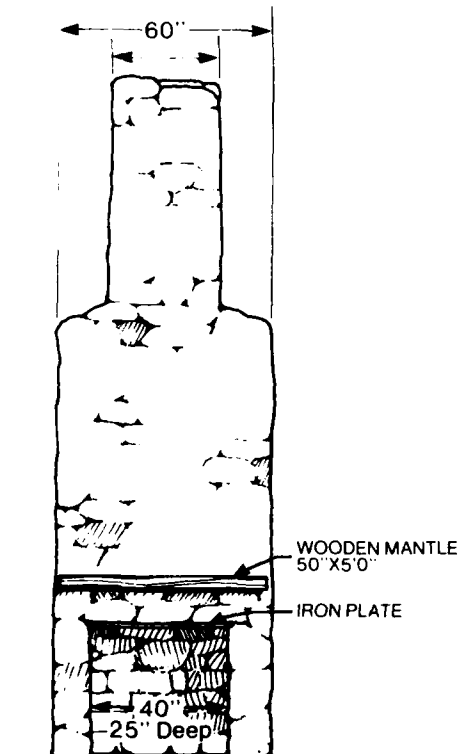
31Ch545 (82-457) Prehistoric Site

This site was discovered in a dirt road on a flat wooded terrace at an elevation of 220 feet MSL. The surface slopes toward Parkers Creek, approximately 310 m east of the site. Soil type for the location is defined as White Store fine sandy loam. All visible material was surface collected from the road. Shovel tests were placed at 20 m intervals in cardinal directions from the center of the surface scatter. Two test units contained metavolcanic debitage. A total of three flakes were recovered from this site.

Site 31Ch545 has been severely disturbed by soil erosion and road construction activities. No further work is recommended.

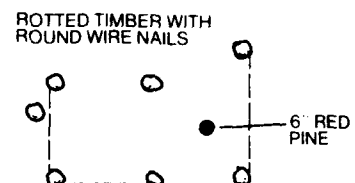
31Ch546 (82-458) Prehistoric Site

This site consisted of a single flake collected from a dirt road on a wooded hilltop 200 m north of Parkers Creek. Elevation of the site is 280 feet MSL. The surface slopes downward to the west and north. Soil type for the location is listed as Orange silt loam. Shovel tests were placed in cardinal directions across the area with negative results.



CHIMNEY
DETAIL

OUTBUILDING 1
(~9'X12')



EU2
(1x1m)



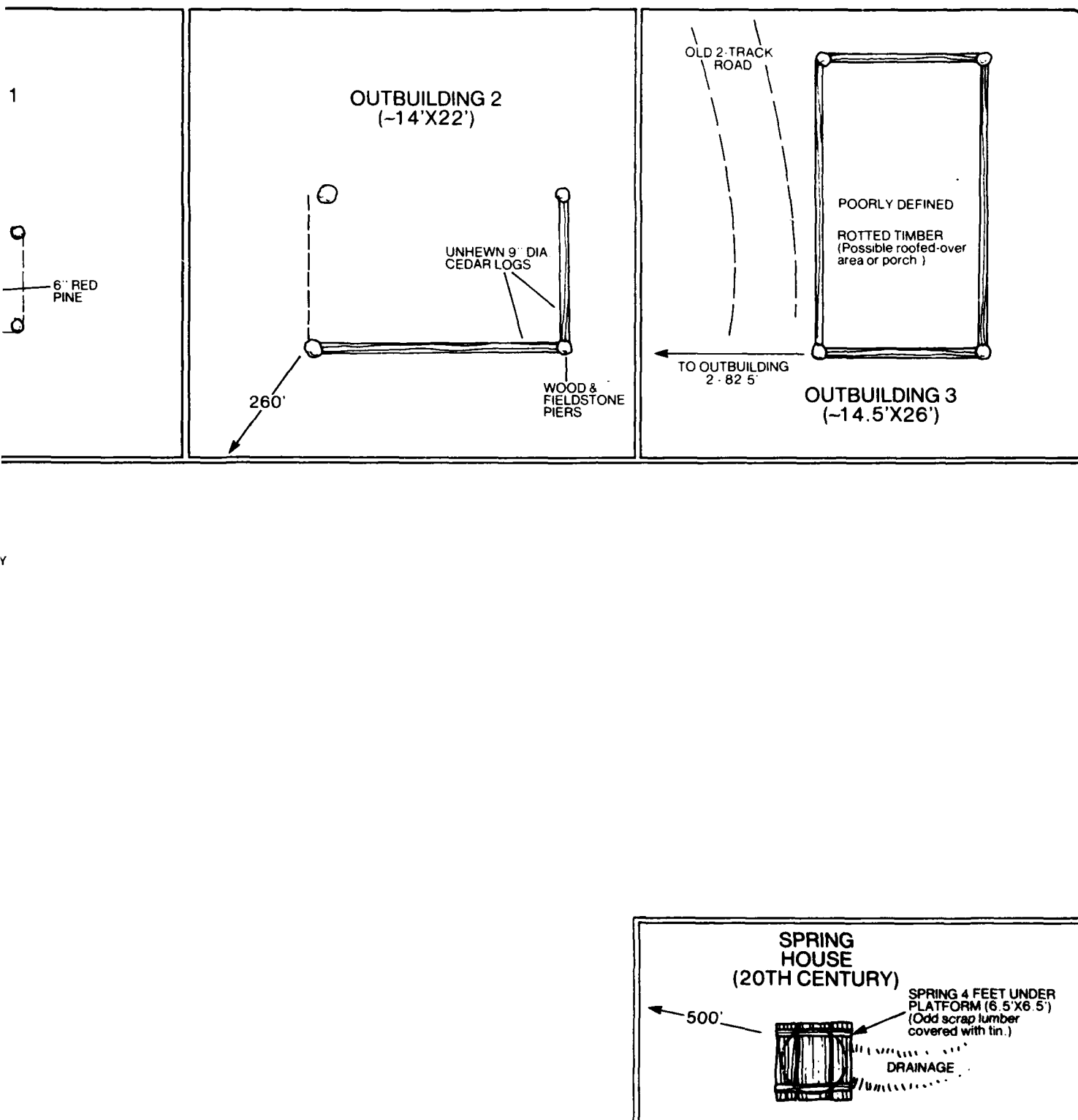


FIGURE 20
PLAN VIEW-SITE 31Ch543

Due to the paucity of artifactual material and disturbances by soil erosion and road construction activities, no further work is recommended at this site.

31Ch547 (82-459) Prehistoric Site

This site, at elevation 290 feet MSL, was discovered during systematic shovel testing of a flat wooded shelf on the lower east slope of a hill 100 m north of Parkers Creek. Soil type is listed as Orange silt loam. Shovel tests were placed in transects along the cardinal directions from the first productive unit. Four pieces of metavolcanic debitage were recovered.

Heavy soil erosion and the paucity of artifactual material indicate that no further work is necessary at this site.

31Ch548 (82-460) Prehistoric Site

This site is a surface scatter in a dirt road on a flat hilltop at an elevation of 260 feet MSL. The surface slopes downward to a small unnamed stream 80 m to the north. Soil type for the location is Davidson clay loam. Artifacts recovered from the site included a biface and a metavolcanic flake.

Due to soil erosion and paucity of artifactual material, no further work is recommended at this site.

31Ch549 (82-461) Prehistoric Site

This site is a sparse surface scatter located on a heavily eroded terrace remnant near the 216 foot MSL conservation pool shoreline. Present vegetation is sparse secondary growth. The submerged channel of an unnamed stream lies 60 m east of the site. Soil type for the site is recorded as White Store fine sandy loam. A total surface collection recovered quartz and metavolcanic debitage.

This site has been subjected to massive soil erosion resulting in the removal of all topsoil on the site. No further work is recommended.

31Ch550 (82-462) Prehistoric Site

This site is a light surface scatter located on a pipeline corridor through an abandoned field. Site elevation is 260 feet MSL. General slope of the area is toward the southeast. A small unnamed stream lies 360 m north of the site. Soil type for the area is recorded as Georgeville stony silty loam. Field observations indicate soil disturbance as evidenced by mixing of the sandy soil with the underlying clay substrate. One quartz and three metavolcanic pieces of debitage were collected.

Disturbances caused by the pipeline construction and soil erosion have destroyed the integrity of this site. No further work is recommended.

31Ch551 (82-463) Prehistoric Site

This site is a surface scatter located on a pipeline corridor in a gently sloping abandoned field. Vegetation on the site was secondary growth, affording over 60 percent surface visibility. A small unnamed stream is 260 m north of the site. Soil type for the location is Georgeville stony silty loam. The assemblage includes one quartz and 17 metavolcanic pieces of debitage, one biface and a small Early Woodland stemmed point.

Disturbances caused by the pipeline construction and heavy soil erosion have destroyed the integrity of this site. No further work is recommended.

31Ch552 (82-464) Historic Farmstead and Prehistoric Site

This site includes both a prehistoric and historic component. It is located on an upland ridge at an elevation of 255 to 300 feet MSL. The surface slopes moderately upward to the west and drops steeply to the north. A small unnamed stream is 100 m to the north; the Jordan Lake lies approximately 90 m to the east. The site is wooded with mature stands of pine and mixed hardwoods. Soil type has been classified as White Store fine sandy loam. The prehistoric site was located during systematic shovel testing. Shovel tests were placed at 20 m intervals on transects in the cardinal directions from the initial productive test. Artifacts recovered by the shovel tests and surface collection made from the dirt access road include quartz and metavolcanic debitage and one non-diagnostic biface. Based on subsurface results, the size of the site was estimated to be 80 x 150 m.

The historic component of 31Ch552, a farmstead, is defined by the remains of a structure, open well, and an associated trash scatter. Several outbuildings are probably associated with a late occupation of the site. The site is bisected by a two-track roadway leading east to a segment of a large abandoned road, now isolated by the Jordan Lake flood pool. Structural remains of a dwelling are partially obscured by collapsed board. Two piles of fieldstone rubble six feet in diameter may represent chimney falls. Both dry-laid fieldstone and mortared brick piers were noted, suggesting a long-term occupation extending well into the twentieth century. A set of cemented cinder block steps on the former structure's east side are adjacent to the collapsed board remains of a porch. It measured 24 feet north-south by 8 feet east-west. Piers and timber remains delineate a structure of at least 24 x 24 feet square, exclusive of the attached porch. Floor sills of milled lumber, averaging 9 inches square, were intact in many places. Both round wire and machine-cut square nails were noted, as well as partially oxidized metal roofing fragments.

An open well was discovered about 3 m north of the former structure. It was partially enclosed by an intact open-topped clapboard crib 5 feet by 5 feet in size and standing 3 feet above ground surface. Round wire nails were used in its construction. The well, four feet in diameter, is lined with fieldstone and is filled with water at a depth of 14 feet below ground surface. Blaze orange flagging tape was installed as a visual warning, and U.S. Army Corps of Engineers personnel were notified of the potential hazard.

A late twentieth century trash scatter covers the site; most of the material is only 10 or 20 years old. Some of the material may represent intrusive dumping which occurred after the site was abandoned. About 6 m north of the former dwelling a fragmentary ceramic crock was recovered from a trash pile which was probably deposited sometime during the 1950s.

Two log outbuildings were noted along the roadway, south of the former dwelling. Constructed of saddle-notched pine logs, they were built recently. As bark is still on the logs, these structures are very likely less than 25 years old.

The prehistoric component of this site has been heavily disturbed by the later historic component and soil erosion. The age of the historic component is too recent to be considered significant. No further work is recommended at this site.

31Ch353 (82-465) Prehistoric Site

This site represents an isolated find located on an old terrace remnant partially inundated by the conservation pool of the Jordan Lake. Distance to nearest water is 100 meters north to a unnamed tributary of the New Hope River. It is important to note that the only artifact recovered was a broken Clovis projectile point, the first fluted lanceolate point recorded in the project area. Unfortunately, no other material was found. Due to massive soil erosion at this site, no further work is recommended.

31Ch94 (82-466) Prehistoric and Historic Artifact Scatter

This site consisted of a surface scatter located on a gently sloping terrace near the 216 foot MSL conservation pool shoreline. Vegetation on the site was secondary growth with 90 percent surface visibility. Soil type for the location has been defined as White Store fine sandy loam. A small unnamed stream lies 340 m to the east. Quartz debitage and one non-diagnostic biface were recovered in a total surface collection of the site. Historic artifacts recovered at this site include a jelly jar glass manufactured after 1940.

Due to massive soil erosion, the site has been heavily disturbed. No further work is recommended.

31Ch554 (82-467) Prehistoric Site

This site is a small surface scatter located on a gently sloping terrace remnant at the 216 foot MSL conservation pool shoreline. A small unnamed stream lies 350 m east of the site. Vegetation in the area was sparse secondary growth with 90 percent visibility. Soil type for the location has been defined as White Store fine sandy loam. A total surface collection recovered quartz and metavolcanic debitage and one non-diagnostic biface.

Due to the location of this site on the conservation pool shoreline, the site has been subjected to massive erosional processes. No further work is recommended.

31Ch555 (82-468) Prehistoric and Historic Artifact Scatter

This site is a small surface scatter located on top of a small knoll in a cut bank of a dirt road. The elevation of this site is 240 feet MSL. Vegetation surrounding the site is in secondary growth, providing minimal ground surface visibility. Soil type for the location has been defined as a White Store fine sandy loam. A total surface collection from the roadway recovered two pieces of metavolcanic debitage and one core fragment. One historic artifact (a piece of metal) was also recovered at this site.

Due to the site being heavily disturbed by soil erosion and road construction activities, no further work is recommended.

31Ch556 (82-469) Prehistoric Site

This site was found during systematic shovel testing along a sloping terrace ridge at an elevation of 235 feet MSL. The New Hope River is 280 m to the east. Vegetation on this site consisted of pines with mixed hardwoods. The soil is a sandy loam mixed with clay and is classified as White Store fine sandy loam. Shovel tests were placed at 20 m intervals in cardinal directions around the initial productive unit. Quartz and metavolcanic debitage and one uniface were recovered.

The soil in this area has been heavily disturbed, with the topsoil mixed with the underlying red clay subsoil. No further work is recommended.

31Ch557 (82-470) Prehistoric Site

This site is a surface scatter located on an eroded sloping terrace approximately 120 m west of New Hope River at an elevation of 230 feet MSL. Vegetation on the site was sparse grasses with 98 percent surface visibility. Soil type for the location has been defined as White Store fine sandy loam. A general surface collection included quartz and metavolcanic debitage, one biface and a small stemmed projectile point.

The site is located within the flood pool (250 foot) level of the lake and has been inundated on various occasions during high water. Consequently, the site has been subjected to massive soil erosion. No further work is recommended.

31Ch558 (82-471) Prehistoric Site

This site is a surface scatter located on an eastward sloping terrace remnant at the 216 foot MSL conservation pool shoreline. The New Hope River lies 220 m to the east. Vegetation on the site was sparse secondary growth, affording 98 percent surface visibility. Heavy erosion was evident. Soil type for the location was defined as White Store fine sandy loam. A total surface collection recovered debitage and a quartz Otter point.

Due to soil erosion the integrity of this site has been destroyed. No further work is recommended.

31Ch559 (82-472) Prehistoric Site

This sparse surface scatter is located on a heavily eroded terrace remnant at the 216 foot MSL conservation pool shoreline. The New Hope River is 300 m to the east. The site was located at the edge of an abandoned field currently in secondary growth with 98 percent surface visibility. The soil is defined as White Store fine sandy loam. A total surface collection recovered four pieces of metavolcanic debitage.

Due to soil erosion caused by fluctuating lake levels, this site is not recommended for further investigation.

31Ch286 (82-473) Prehistoric Site

This site lies on the southeast slope of a terrace nose at the conservation pool shoreline with the New Hope River 300 m to the east. Surface visibility was 98 percent in sparse secondary growth. Soil on the site was defined as White Store fine sandy loam; however, the site is heavily eroded. A total surface collection recovered one quartz and nine metavolcanic pieces of debitage and two non-diagnostic bifaces.

Due to its location in the buffer zone between the conservation and flood pool lake levels, this site has been subjected to massive soil erosion, destroying the site's integrity. No further work is recommended.

31Ch560 (82-474) Prehistoric Site

This site is a surface scatter located in sparse secondary growth on a sloping terrace nose near the 216 foot MSL conservation pool shoreline. A small unnamed stream is 200 m to the west. Soil type for the location is White Store fine sandy loam; the site is heavily eroded. A total surface collection produced one quartz and 12 metavolcanic pieces of debitage and one uniface.

This site is located near the conservation pool shoreline, well within the lake level at flood stage. The site has been periodically inundated, resulting in massive soil erosion and destruction of the site's integrity. No further work is recommended.

31Ch561 (82-475) Prehistoric Site

This sparse surface scatter lies on a sloping terrace near the 216 foot MSL conservation pool shoreline. The site was located in a heavily eroded area of sparse secondary growth with 98 percent surface visibility. Soil on the site was defined as White Store fine sandy loam. The surface slopes toward an unnamed stream 120 m to the southwest. A total surface collection recovered only two pieces of metavolcanic debitage.

This site's integrity has been destroyed by fluctuating lake levels resulting in massive soil erosion. No further work is recommended.

31Ch562 (82-476) Prehistoric Site

This light surface scatter is located in sparse secondary growth on the south slope of a sandy terrace. The site was found near the 216 foot MSL conservation pool shoreline. A small unnamed stream is 40 m to the west. Soil type for the location is Altavista fine sandy loam; however, the site is heavily eroded. Two pieces of metavolcanic debitage and a biface fragment were recovered.

This site's integrity has been destroyed by fluctuating lake levels and wave action. No further work is recommended.

31Ch563 (82-477) Prehistoric Site

This site was located during systematic shovel testing of a flat wooded knoll top at an elevation of 250 feet MSL. Shovel tests were spaced at 20 m intervals on transects in the four cardinal directions.

The soil profile includes a thin layer of sandy loam overlying sandy yellow clay and was classified as White Store fine sandy loam. Erosion was heavy on much of the site, as it had been disturbed by road cuts and logging activities. The site appeared to be confined to the flat knoll top and less than 600 square meters in size. However, site size and shape determination was not possible due to the degree of disturbance in the area. In addition to 9 pieces of metavolcanic debitage recovered from subsurface tests, a quartz Halifax projectile point was collected from the surface of a dirt road across the knoll.

Due to shallow soil deposits, soil erosion over most of the area and road construction activities, this site's integrity has been destroyed. No further work is recommended.

31Ch564 (82-478) Historic Farmstead

31Ch564 is located on a terrace remnant, 230 feet MSL, 400 yards west of the Jordan Lake flood pool. The site is wooded with mature stands of red pine and mixed hardwoods. An open field covered with grasses and low shrubs lies 40 feet west of the core area of the site. The site covers nearly ten acres, its original outlines obscured by forest succession. Soils in the area are included in the White Store fine silty loam series.

31Ch564 is defined by the remains of a structure, an open well, and associated artifact scatter. Structural remains are composed of a full foundation of dry-laid fieldstone, and an accumulation of fieldstone rubble 6 feet high representing a chimney fall. The structure is a rectangular single pen dwelling with a hearth and chimney occupying the central portion of the east wall. The foundation measures 18 feet north-south by 30 feet east-west.

A fieldstone lined well lies 60 feet northwest of the chimney. Three feet in diameter, the well is open from ground surface to 9 feet below ground level, at which point it is filled with water. The well was obscured by vegetation. It was surrounded by blaze orange flagging type to serve as a visual warning and barrier. Personnel of the Corps of Engineers were notified of the potential hazard.

Surface collection was hampered by a thick ground cover of vegetation, primarily poison ivy. Shovel tests were placed in each inside corner of the foundation, in the foundation center, and south of the chimney fall. A shovel test in the foundation center was expanded to a 1 x 1 m unit, and excavated to a depth of 10 cm. All generated soil was screened through 1/4 inch mesh. Charcoal was recovered in abundance, suggesting the structure may have burned. Also recovered were hand-wrought square nails and bottle glass. Artifactual evidence indicates occupation of 31Ch564 as occurring before the 1820s. Additional information pertaining to this site's artifactual assemblage is provided on page 207 of this report.

Due to the very early date assigned to this occupation, this site is considered significant and has been included in the proposed National Register District. Future investigations of this site can provide information on early historic settlement strategies in the New Hope River Valley.

31Ch565 (82-479) Historic Farmstead

31Ch565 is located on an upland ridge at 430 feet MSL, 200 yards west of the Jordan Lake conservation pool, formerly the drainage basin of Parkers Creek. The site and environs are wooded with mature stands of pine and mixed hardwoods. Soils in the area are included in the Goldstone gravelly silt loam series. The road cut of new State Road 1941 is immediately west of the site. Damage by clearing and road construction activity appears to be slight.

31Ch565 (Figure 21) consists of the remains of a dwelling, outbuilding, and associated artifact scatter. The dwelling is defined by two chimney falls, dry-laid fieldstone piers, and timber fragments. Delineated is a rectangular foundation of a structure consisting of at least two pens, possibly that of a "dogtrot" house. The former structure measured 20 feet north-south by 50 feet east-west.

Fieldstone rubble piles representing chimney falls exist in the center of the former north and east walls. A 6 x 6 foot, two foot deep depression exists inside the east pen, next to the chimney fall. It represents the probable remains of a small storage cellar. A single cemented brick pier was noted near the estimated northeast corner of the former house, probably representing an addition or repair installed long after original construction. Timber remains were decomposed and too fragmentary to be diagnostic of a specific construction technique. A standing red oak exceeding 3 feet in diameter was noted southeast of the foundation. Two 1 x 1 m units were excavated inside the structure foundation, each located in the estimated center of a pen. They were excavated to a depth of 5 cm, at which point sterile clay was reached. Machine-cut square nails, window glass, ceramics and metal artifacts were recovered.

An additional structure was located 45 yards north of the former dwelling. It is defined by a rectangular pattern of dry-laid fieldstone piers and measures 17.5 feet north-south by 16 feet east-west. It probably represents the remains of an outbuilding. Two 1 x 1 m units were placed inside this foundation. They were excavated to a depth of 5 cm. One-fourth inch mesh was used in screening. Recovered were nails and iron artifactual material. Additional information pertaining to the artifactual assemblage recovered at this site is presented on page 207 of this report.

This site has been considered significant in relation to the research design. Future investigations can provide data concerning early historic settlement strategies of the New Hope River Valley.

31Ch566 (82-480) Prehistoric Site

This site was found eroding from the old U.S. 64 road cut near Parkers Creek on a flat wooded terrace at 240 feet MSL. Windfall Branch is 420 meters to the southwest; Parkers Creek is 500 m to the east. A surface collection was made of all material visible in the road cut. Shovel tests placed at 20 m intervals across the site showed 15 to 20 cm of sandy loam covering sandy yellow clay. Soil type was listed as Goldstone gravelly silt loam. Test results indicated a cultural subsurface deposit extending over an area less than 600 square meters. The artifact assemblage included quartz and metavolcanic debitage and a Halifax projectile point. An indeterminate portion of the site had been destroyed by highway construction to the south. A deep firebreak had been cut to the north, and a dirt road lay to the west. There was no cultural material visible in either the firebreak or the road.

Due to the presence of subsurface deposits, it is recommended that an archeologist monitor this site if adversely impacted by construction activities. Although no features were observed in any of the test units, particular attention should be paid in locating and sampling these if they are discovered during construction.

31Ch492 (82-481) Prehistoric and Historic Artifact Scatter

This sparse surface scatter less than 25 square meters in area was found in a dirt road crossing a wooded flat ridgetop, at an elevation of 270 feet MSL. Steep slopes descend to the east and west; a gradual downslope continues to the south. Morgan Creek is 940 m southwest of the site. Soil composition on the site was described as gray sandy loam over red clay. The soil type is defined as White Store-Creedmoor.

A total surface collection included only one piece of metavolcanic debitage, and none of the 16 shovel tests, placed at 20 m intervals to either side of the road, produced cultural material. Two pieces of historic whiteware ceramics were also found at this site.

Due to the low artifact density at this site, no further work is recommended.

31Ch493 (82-482) Prehistoric Site

This site was recorded as a surface lithic scatter covering an area less than 25 square meters located in an old dirt road across a flat wooded ridgetop at an elevation of 260 feet MSL. Steeply descending slopes are east and west of the site, with a gradual downslope to the south. Morgan Creek lies 900 m southwest of the site. Soil type for the location was recorded as White Store-Creedmoor. One

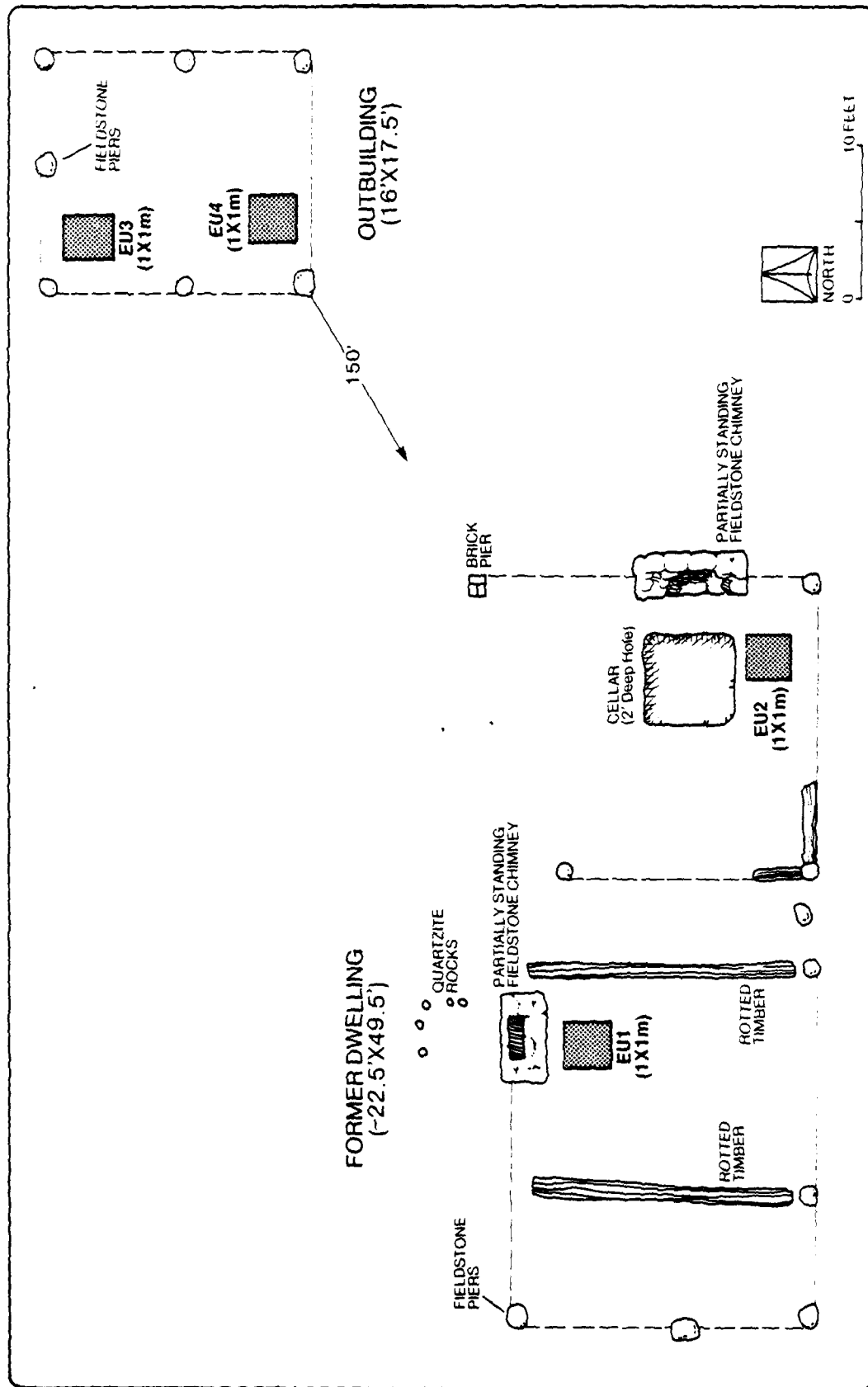


FIGURE 21
PLAN VIEW-SITE 31Ch565

CULTURAL RESOURCES SURVEY OF PROPOSED
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quartz and 27 metavolcanic pieces of debitage and one biface were recovered. Shovel testing in this area proved negative.

Heavy soil erosion and road construction activities have destroyed much of the site. No further work is recommended.

31Ch494 (82-483) Prehistoric Site

Another surface lithic scatter extending along a dirt road for approximately 50 meters across a flat wooded ridgetop, this site lies at an elevation of 255 feet MSL. Morgan Creek lies 900 m to the southwest. Soil on the site was described as gray sandy loam over a red clay substrate. Soil type for the location was defined as White Store-Creedmoor sandy loam.

A total surface collection included 10 quartz and 57 metavolcanic pieces of debitage, one groundstone, one uniface, five bifaces, and a Savannah River hafted biface. Twenty-four shovel tests spaced at 20 m intervals along transects across the area had two units producing a non-diagnostic biface and additional debitage.

It is obvious from the vegetation and soil profiles that this site has been heavily disturbed by agricultural and road construction activities. No further work is recommended.

31Ch495 (82-484) Prehistoric Site

This surface scatter covering an area less than 600 square meters was discovered in an eroded dirt road that crosses a flat wooded ridgetop, at an elevation of 260 feet MSL. The surface remains fairly level for 80-100 m to the west before beginning a steep descent; steep slopes also occur to the south and southeast. New Hope Creek is 740 meters to the southeast.

A total surface collection recovered 16 quartz and 87 metavolcanic pieces of debitage, 3 uniface, 6 bifaces, 1 groundstone, and a Savannah River hafted biface. Over 40 shovel tests were placed at 20 m intervals on transects across the area. Three of the subsurface units produced debitage and one additional Savannah River point.

Soils consisted of a thin layer of gray sandy loam capping red clay. Soil type was defined as White Store-Creedmoor sandy loam. Erosion was heavy along intersecting dirt roads and on the slopes.

This site has been heavily disturbed by road construction activities and soil erosion. Plowing has mixed the topsoil and subsoil together in many locations. No further work is recommended at this site.

31Ch496 (82-485) Prehistoric Site

This site was recorded as a surface scatter located on a wooded flat terrace ridge at the 216 foot MSL conservation pool shoreline. New Hope Creek is

200 m southeast of the site. Soil type for the location was defined as White Store-Creedmoor sandy loam; however, heavy erosion had removed all soil over the red clay substrate. A collection of all visible material resulted in recovery of one chert, 4 quartz and 58 metavolcanic pieces of debitage, two non-diagnostic bifaces, and a drill fragment.

Due to severe soil erosion caused by lake level fluctuations, site integrity has been destroyed. No further work is recommended.

31Ch497 (82-486) Prehistoric Site

This site was discovered during systematic shovel testing of a flat wooded ridgetop 1100 m northwest of New Hope Creek. Elevation of the site was 270 feet MSL. The surface descended steeply to the east. Soil on the site was described as gray sandy loam capping red clay. The soil type was defined as White Store-Creedmoor.

Shovel tests were spaced at 20 m intervals on transects extending in cardinal directions from the initial site contact. Two productive subsurface units yielded three metavolcanic flakes.

Due to the low artifact density present at this site, no further work is recommended.

31Ch498 (82-487) Prehistoric Site

This site consisted of an isolated quartz biface which was recovered from the surface of a dirt road across a flat wooded ridgetop at an elevation of 245 feet MSL. Steep slopes lie to the northeast and southwest. The surface descends gently toward New Hope Creek approximately 840 m to the southeast. Soil type for the location is White Store-Creedmoor sandy loam.

This site has been heavily disturbed by soil erosion. Also, the low artifact density present at this site suggests that no additional work is required.

31Ch499 (82-488) Prehistoric Site

This site was recorded as a sparse surface scatter extending no more than 10 m along an eroded dirt road on a flat wooded terrace ridge at an elevation of 245 feet MSL. New Hope Creek is 840 m southeast of the site. Soil type for the location is defined as White Store-Creedmoor sandy loam; however, due to heavy erosion, only red clay remained. A total surface collection recovered three pieces of metavolcanic debitage and a non-diagnostic biface.

Due to disturbances caused by soil erosion, this site is not recommended for additional work.

31Ch500 (82-489) Prehistoric Site

This site was recorded as a surface scatter located on a dirt road intersecting the conservation pool shoreline at 216 feet MSL. The site was on a wooded terrace remnant that formed a narrow peninsula extending southeastward into the lake. The submerged channel of New Hope Creek lies 760 m to the southeast. The soil type at this location was classified as White Store-Creedmoor sandy loam; however, heavy erosion had left no topsoil over bare red clay.

All visible artifacts were collected from the road and shoreline. Four quartz and 43 metavolcanic pieces of debitage and three non-diagnostic bifaces were recovered.

Due to disturbance caused by lake level fluctuations, no further work is recommended at the site.

31Ch501 (82-490) Prehistoric Site

This lithic scatter was discovered on a dirt road extending less than 10 meters along a broad flat ridgetop at an elevation of 250 feet MSL. The wooded ridge continues a gradual descent toward the south to terminate near the confluence of Morgan Creek and New Hope Creek. Morgan Creek is 450 m west of the site and New Hope Creek is 500 m to the east.

All visible artifacts were collected from the surface. Shovel tests were placed at 20 m intervals along transects across the area, resulting in six productive units, all on the eastern side of the ridge. The assemblage includes 3 unifaces, 1 biface, and 10 quartz and 38 metavolcanic flakes.

The density and diversity of tool types collected at this site are unusually high. It is recommended that if this site is adversely impacted by construction activities, that an archeologist be present to monitor for the presence of features and unusual tool concentrations, particularly on the eastern side of the ridge.

31Ch502 (82-491) Prehistoric Site

Located on the east side of a long terrace remnant near the confluence of Morgan Creek and New Hope Creek, the site lies on a flat wooded area near the 216 foot conservation pool shoreline. New Hope Creek is 320 m southeast of the site. Soil type for the location was recorded as White Store-Creedmoor; however, due to heavy erosion, no topsoil remained on the site.

All artifacts visible along the shoreline were collected. Shovel tests were spaced at 20 m intervals along transects across the area. In all, 2 quartz and 5 metavolcanic flakes were recovered at the site.

Due to massive disturbance as a result of soil erosion, no further work is recommended.

31Ch503 (82-492) Prehistoric Site

This site lies on a flat wooded saddle of a broad ridge that extends southward, terminating on the floodplain near the confluence of Morgan Creek and New Hope Creek. Elevation of the site is approximately 260 feet MSL. New Hope Creek is 480 m southeast of the site.

The site is a surface scatter covering an area less than 70 meters on a side located along a road traversing the ridgecrest. All cultural material visible in the road was collected. Shovel tests were spaced at 20 m intervals on transects across the site. A total of 48 shovel units were dug in which three contained cultural materials. In all, 12 quartz and 17 metavolcanic flakes were recovered from the road cut and shovel test units.

Subsurface soil profiles included a gray sandy loam capping red clay. Soil type for the location is defined as White Store-Creedmoor sandy loam.

It appears that the most dense area of the site has been destroyed by road construction activities. No further work is recommended.

31Ch504 (82-493) Prehistoric Site

The site lies at an elevation of 255 feet MSL the site lies on a heavily wooded ridge that terminates near the confluence of Morgan Creek and New Hope Creek. New Hope Creek is 600 m east of the site.

All visible material located in a road cut which bisects the site was collected. Fifty-one shovel tests were spaced at 20 m intervals on transects across the area. Three of these proved productive. Soils include a thin layer of gray sandy loam capping red clay and were classified as White Store-Creedmoor sandy loam. One quartz and 12 metavolcanic flakes and one non-diagnostic biface were recovered from the site.

No further work is recommended at this site.

31Ch505 (82-494) Mason Farm Complex and Prehistoric Site

The Mason farm, a site listed on the National Register of Historic Places, is located on a forested ridge that extends as a peninsula into the Jordan Lake. Before flooding, the ridge was flanked to the west and east by drainage basins of Morgan and New Hope Creek, respectively. Elevation is 270 feet MSL and soils in the area are classified as belonging to the White Stone-Creedmore series.

The most distinctive feature of the nine building farm complex (Figures 22 and 23) is the main house documented on the National Register Nomination and by Hammond (1982). The antebellum white frame house stands two stories on a brick foundation, and has two exterior end chimneys. A porch supported by brick footings spans most of the front facades. Unfortunately, since the house studies were conducted rain and barn owls have continued to damage floors and woodwork. Looting of lumber was observed at most structures and was particularly apparent in the main house where the stairwell and other woodwork has been removed.

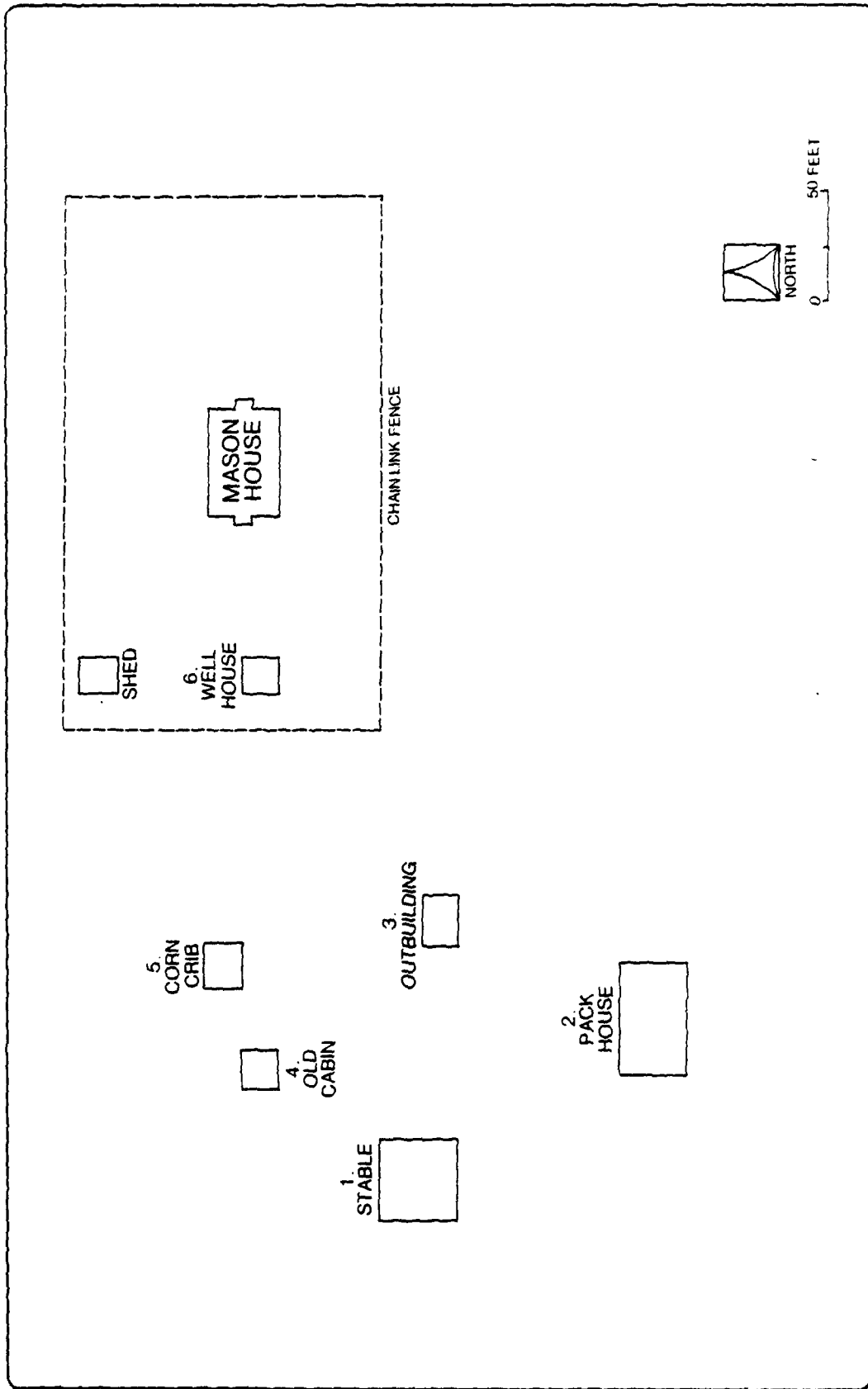
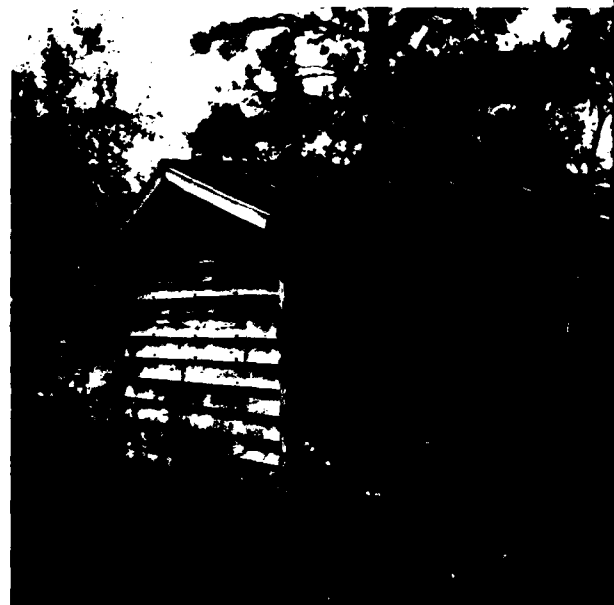


FIGURE 22
PLAN VIEW-SITE 31Ch505

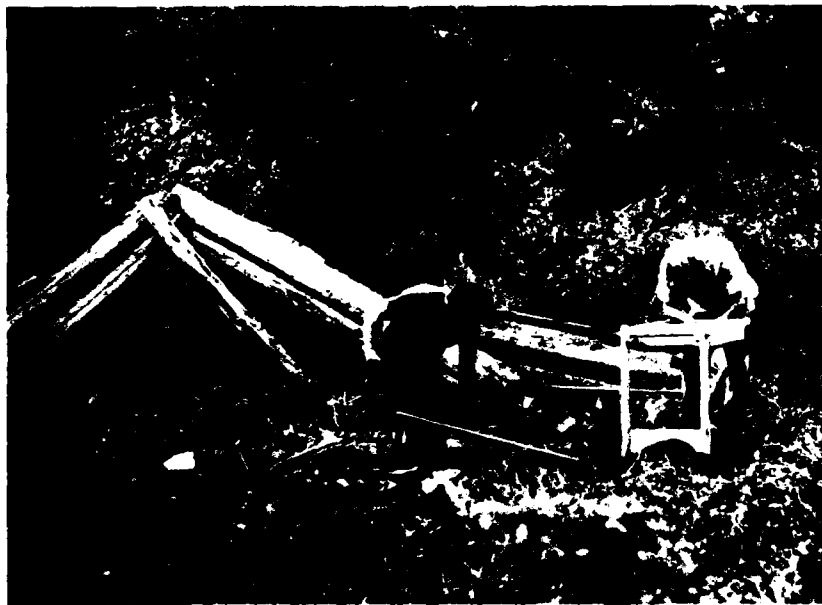
CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA
CUMMINGS & ASSOCIATES, INC.



A. STRUCTURE 2 - PACKHOUSE.
North Face. Early 20th Century.



B. STRUCTURE 3 - OUTBUILDING.
South Face. 20th Century.



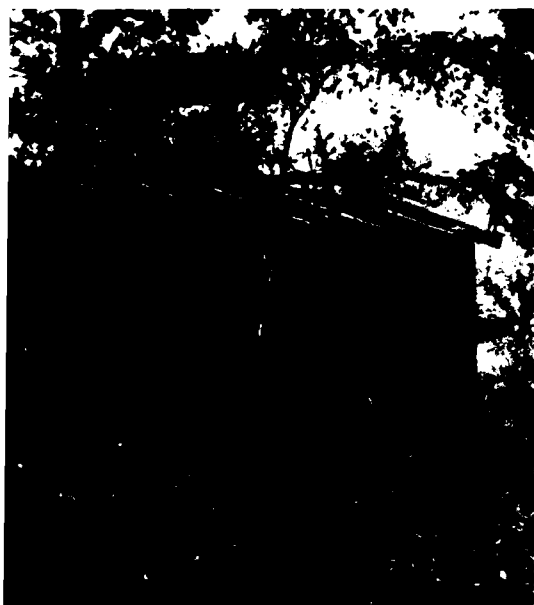
D. STRUCTURE 4 - OLD CABIN.
Test Excavation - Probable 18th
Century Log Structure.



E. STRUCTURE 4 - DETAIL
Northwest Corner.

CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

 COMMONWEALTH ASSOCIATES, INC.



BUILDING.
ntury.



C. STRUCTURE 5 - CORN CRIB
South Face. Early 20th Century



RE 4 - DETAIL
Corner.



F. STRUCTURE 4 - DETAIL
Interior, Northwest Corner.

FIGURE 23
SITE 31Ch505
MASON FARM COMPLEX

2-

Surface and subsurface collections were gathered from the main house area. Prehistoric and historic materials were surface collected in the farm drive. One hundred and fifty-eight shovel tests were dug at 20 m intervals in the fenced area near the house. The subsurface assemblage included ceramics, glass and nails as well as debitage.

The 1983 survey focused primarily on the portion of the Mason farm outside the fenced enclosure. However, the Mason house was checked to ascertain its current condition, and surrounding grounds were shovel tested.

Five outbuildings are located on the grounds surrounding the Mason house; four were apparently constructed in the twentieth century, and are standing structures. Remains of a log structure are apparently associated with early occupation of the site. All structures were mapped, sketched, and photographed.

Structure 1 is a two-story standing stable. Much of its clapboard siding, second story floorboard, and roofing has been removed. The frame, constructed of pre-cut 2 x 4's is intact. The stable floorplan is square, measuring 30 feet on a side. The first floor features six horse stalls of equal size, separated by a central hallway with large entrances on either end. The second floor consists of a single room, evidently designed for hay storage. A 1.9 x 3.9 foot hole exists in the floor, serving as a drop for hay bales to the stalls below. Round wire nails were used in construction. Structure 1 was evidently constructed well into the twentieth century, probably within the last 50 years.

Structure 2 is a standing two-story building which also may have last served as a stable. The building is constructed of pre-cut 2 x 4's, clapboard, and round wire nails. Sheet metal was used as roofing material, and as siding on the structure's south face. Support is provided by foundation piers of brick and cement. The floorplan is rectangular, measuring 25.5 feet north-south by 42.5 feet east-west. The east half of Structure 2 is a simple roofed-over area probably intended for equipment storage. An accumulation of clapboards removed from the east wall and the Mason house was found stacked there, evidently awaiting transport. The roofed-over area evidently represents a relatively recent addition, probably installed by the last occupants of the Mason complex. Decomposing hay was found on the dirt floor of the roofed-over area, suggesting it may have sheltered horses in the recent past. The west half of Structure 2 consists of a two-story framed building. Floor plans of the first and second stories are both a simple single pen. Structure 2 had been used for storage by previous occupants, as scattered and apparently looted belongings and packing boxes were found throughout the structure. Magazines and newspapers were noted, dating from the late 1960s. The west half of Structure 2 is older than the east half, and probably was constructed early in the twentieth century.

Structure 3 is also a standing outbuilding associated with twentieth century occupation. A simple single pen shed, it measures 12.6 feet north-south by 14.6 feet east-west. It features a poured cement floor and sheet metal roofing. Oil cans and engine parts found inside suggest it last served as a tool shed.

Structure 4 consists of the remains of a single pen square building of log construction, measuring 19 feet on a side. Several of the timber elements used in construction are intact. Sills and timbers composing the northwest corner of the former structure are particularly well preserved, probably due to a high pitch

content of wood from the center of large pine. Pitch was noted dripping from several timbers, portions of which still had the appearance of being freshly cut. Opposite extremities of the logs had in some cases decomposed entirely. The logs were hewn and adzed. A half-dovetail notching technique was utilized in construction. Logs were large, some measuring 1.5 feet thick, a trait diagnostic of log structures constructed from virgin forests. Dry-laid fieldstone piers serve as foundation supports.

A 1 x 1 m unit was excavated inside Structure 4, adjacent to a possible doorway cut into the mid-section of the east wall of the foundation. The unit was excavated to a depth of 10 cm, and all generated soil was screened through 1/4 inch mesh. Recovered were fragments of historic ceramics, glass, machine-cut square nails, and pieces representing sheet metal roofing material.

Despite ambiguous artifactual evidence, structural characteristics of Structure 4 suggest it may be associated with initial occupation of the Mason farm complex, which may have occurred sometime before 1797, according to archival information included in the National Register of Historic Places nomination form.

Structure 5 is a small standing outbuilding of twentieth century origin. A single pen shed, it very likely served as a corncrib; its board walls are well ventilated by horizontal openings left between each board. It measures 16.3 feet north-south by 12.2 feet east-west. The sills are supported by wooden piers. Sheet metal roofing was noted. A roofed-over area, supported by 4 x 4 foot beams, represents a recent addition to the structure: metal roofing here is less oxidized than that of the main portion of the structure.

31Ch506 (82-495) Prehistoric Site

This lithic scatter was discovered extending along a railroad bed for approximately 25 meters on the western edge of a terrace remnant which extends southward toward the confluence of Morgan Creek and New Hope Creek. Morgan Creek lies 650 m west of the site. The site had been heavily damaged by rail construction. Soil type for the location was defined as White Store-Creedmoor.

All visible cultural material was collected from the surface. Thirteen shovel tests were placed at 10 m intervals along transects oriented in the four cardinal directions from the center of the surface scatter. None of these tests were productive. Artifacts recovered include one Savannah River projectile point, an Otter project point, and one quartz and 11 metavolcanic flakes.

Due to disturbances resulting from railroad construction activities, no further work is recommended.

31Ch507 (82-496) Prehistoric Site

This site is located at an elevation of 250 feet MSL in a flat area on a narrow wooded ridge that extends southward toward the confluence of Morgan Creek and New Hope Creek. New Hope Creek is 650 m east of the site; Morgan Creek lies 700 m to the west.

This lithic scatter was discovered along an abandoned railroad cut. All visible artifacts were collected, including 3 metavolcanic flakes and a serrated Kirk point. Nine shovel test units were placed at 10 m intervals in the four cardinal directions. None of these units were productive. Soil type for this area is White Store-Creedmoor.

Due to disturbances caused by railroad construction activities, no further work is recommended.

31Ch508 (82-497) Prehistoric Site

This site is located at the 216 foot MSL conservation pool shoreline on a terrace remnant 450 m east of Morgan Creek. This lithic scatter was found among scrub willows and sparse coarse grasses. The site was heavily eroded; soil type had been defined as White Store-Creedmoor sandy loam.

All visible artifacts were collected. Six shovel test units were placed at 10 m intervals along transects oriented in cardinal directions from a reference datum near the center of the surface scatter with no results. The artifact assemblage recovered from the surface investigation includes a uniface, three non-diagnostic bifaces, one quartz and 14 metavolcanic flakes, and one Savannah River projectile point.

Due to disturbances caused by lake level fluctuations, no further work is recommended at this site.

31Ch509 (82-498) Prehistoric Site

This debitage scatter less than 25 meters in length lies at 215 feet MSL on a wooded terrace approximately 400 m east of Morgan Creek. Soil type for this location was defined as White Store-Creedmoor sandy loam.

All visible material was collected. Seven shovel test units at 10 m intervals on transects oriented in cardinal directions from the surface material failed to produce cultural material. Three quartz and 6 metavolcanic flakes were recovered from the surface.

Due to fluctuations in the lake level, soil erosion has destroyed the integrity of this site. No further work is recommended.

31Ch510 (82-499) Prehistoric Site

This site lies on the western edge of a submerged saddle on a wooded terrace extending southward toward the confluence of Morgan Creek and New Hope Creek. Morgan Creek lies 360 m to the west of the site. The site consisted of a sparse lithic scatter near the 216 foot MSL conservation pool shoreline.

All visible cultural material was collected. Six shovel test units were spaced at 10 m intervals in cardinal directions from the surface scatter; no cultural

material was found in any of the units. Soil type for this location was defined as White Store-Creedmoor sandy loam.

Due to heavy soil erosion at this site, no further work is recommended.

31Ch511 (82-500) Prehistoric Site

This dense scatter of lithics and ceramics lay exposed on the eroded slope near the 216 foot MSL conservation pool shoreline. The site is located on the south slope of a partially inundated saddle on a terrace remnant near the confluence of Morgan Creek and New Hope Creek. Morgan Creek lies 440 m west of the site; New Hope Creek is 460 m to the east. Several rock and debitage concentrations were observed.

A baseline was established, beginning at the waterline and extending due north beyond the visible scatter. East-west transects intersected the baseline at 5 m intervals. Points spaced at 5 m intervals along the transects served as centers for 2 m radius surface collection circles. A shovel test was placed at the center of each surface unit. No cultural material was recovered from the shovel tests. The artifact assemblage includes quartz, chert and metavolcanic debitage, fire-cracked rock, a hammerstone, unifaces, bifaces and a small stemmed Woodland projectile point.

31Dh351 (82-501) Prehistoric Site

This site was discovered during systematic shovel testing of a flat wooded ridge nose overlooking the floodplain of Little Creek. The main channel of Little Creek is 450 meters west of the site; however, old abandoned meander channels are located much nearer. It is possible that during the occupation of site 31Dh351 the stream flowed adjacent to the site. The floodplain at this point is extremely wide (600 meters) and supports a forest community of swamp chestnut oak, overcup oak, willow oak, swamp spanish oak, sweetgum, swamp red oak, hickory and elm trees. The forest community on the site itself is primarily oaks and hickories with various scrub species in the understory.

Site 31Dh351 is situated on a narrow ridge with an elevation of 250 feet MSL. This ridge extends westward from the uplands, gradually decreasing in elevation until it drops abruptly (3 to 4 meters) into the Little Creek floodplain. The width of the ridge nose, overlooking the floodplain, is approximately 50 meters. Beginning at the point on the ridge closest to the floodplain, shovel test units were dug at 20 meter intervals along north-south transects over the top of the ridge. In all a total of 21 shovel test units were excavated with five of these units producing cultural material. In two of the test units closest to the floodplain, two small stemmed Woodland projectile points associated with metavolcanic flakes were recovered at an approximate depth of 50 centimeters. Shovel units located as far as 70 meters away from the floodplain also contained artifacts, including 2 non-diagnostic bifaces and flakes at the 50 centimeter level. Using the data derived from the positive shovel test units, site size is estimated to be approximately 3,500 square meters.

The soil profiles observed at this site were consistent between the various units, indicating minor or no postdepositional soil modification. The soil profiles contained a top 10 centimeter humic layer, underlain by a 60 centimeter thick layer of slightly brownish-yellow sandy loam. No differentiation between soil strata was observed in this basic unit; however, the clay content increased as depth increased. The soils at this site are very unusual given the depth to subsoil. Nowhere else in the project area were soils encountered that exceeded 10 to 20 centimeters in depth. Also, the soils at site 31Dh351 appear to be undisturbed with no evidence for plowing or eroded surfaces.

The discovery of an intact buried cultural horizon at site 31Dh351 is significant for it represents one of the few remaining sites in the New Hope River Valley that has not been subjected to such destructive forces as massive soil erosion and plowing.

To date, the occupation of site 31Dh351 has been assigned to the Early Woodland period based on the recovery of two Woodland stemmed projectile points. The occurrence of similarly dated sites in other headwater regions of piedmont river drainages (Claggett, personal communication) indicates a shift in land use strategies during this time period, emphasizing an increased use of headwater areas. Unfortunately, the nature and extent of this utilization is unknown.

In summary, site 31Dh351 is considered a significant archeological resource on the basis of three archeological properties including variety, quantity, clarity, integrity and environmental context (see Glassow 1977). The results of the shovel testing program identified a single cultural occupation at site 31Dh351 which is important for isolating discrete artifactual assemblages. This information can be used to inform on the degree of specialization or localization of a group's technological organization. The integrity of site 31Dh351 is rated high because the cultural deposit is deeply buried. Shovel test units placed across the site indicate that the Woodland assemblages occur at approximately 50 centimeters below ground surface. Also, the soils in this area appear to be unmolested by erosion or plowing. The final archeological property judged significant is the environmental context of site 31Dh351. As discussed above, this site is located in an area overlooking a wide undifferentiated floodplain containing low swampy areas and meandering streams. The recovery of Woodland assemblages occurring in this environmental context could help explain the nature and extent of Early Woodland exploitation strategies and overall economic organization of populations inhabiting the New Hope River Valley during this time period.

Site Description Summary

Cultural affiliations of the sites described above are presented in Table 4. Components identified for particular sites were determined by the presence of diagnostic artifacts including projectile points, ceramics, historic bottles, and nails.

THE LITHIC ANALYSIS

Each artifact category was analyzed according to attributes that were selected for their ability to inform on geographical and technological organization

TABLE 4

Cultural Components Identified by the Present Survey
at the B. Everett Jordan Dam and Lake

Sites	Paleo-Indian	Dalton	Archaic			Woodland			Mississippian	Historic Aboriginal	Historic European		Unidentified
			E	M	L	E	M	L			19th Century	20th Century	
31Ch42													x
31Ch43												x	
31Ch237									x				
31Ch287													
31Ch306												x	
31Ch364													x
31Ch386													x
31Ch484													x
31Ch485													x
31Ch486													x
31Ch487													
31Ch570			x										
				x									
31Ch488			x										
31Ch489													
31Ch490													
31Ch491													
31Ch512													
31Ch513													
31Ch514													
31Ch515													
31Ch516													
31Ch517													
31Ch518													
31Ch519													
31Ch520													
31Ch521													
31Ch522													
31Ch523													
31Ch524													

TABLE 4 (Cont'd.)

Sites	Paleo-Indian	Dalton	Archaic E M L	Woodland E M L	Mississippian	Historic Aboriginal	Historic European		Unidentified
							19th Century	20th Century	
31Ch525									
31Ch526			x				x		
31Ch527									x
31Ch528									x
31Ch529									x
31Ch530			x						
31Ch531							x		
31Ch532									x
31Ch533									
31Ch534			x				x		x
31Ch535									x
31Ch536		x	x	x	x	x			
31Ch537									x
31Ch538							x		
31Ch539							x		
31Ch540							x		
31Ch541							x		
31Ch542							x		
31Ch543							x		
31Ch544									x
31Ch545									x
31Ch546									x
31Ch547									x
31Ch548									x
31Ch549									x
31Ch550									x
31Ch551									x
31Ch552									x
31Ch553									x
31Ch94	x						x		
31Ch554									x
31Ch555							x		x
31Ch556									x

TABLE 4 (Cont'd.)

Sites	Paleo-Indian	Dalton	Archaic		Woodland		Mississippian	Historic Aboriginal	Historic European		Unidentified
			E	M	L	E	M	L	19th Century	20th Century	
31Ch557											x
31Ch558			x								x
31Ch559											x
31Ch286											x
31Ch560											x
31Ch561											x
31Ch562											
31Ch563			x						x		
31Ch564									x		
31Ch565			x								
31Ch566											
31Ch492									x		
31Ch493											x
31Ch494			x								
31Ch495				x							x
31Ch496											x
31Ch497											x
31Ch498											x
31Ch499											x
31Ch500											x
31Ch501											x
31Ch502											x
31Ch503											x
31Ch504			x						x		x
31Ch505											
31Ch506				x							
31Ch507			x								
31Ch508											
31Ch509			x								x
31Ch510											x
31Ch511											
31Dh351											

of the artifact assemblages. A review of the data reduction process used to summarize the data precedes the artifact discussion.

Analytic Methods and Classification Procedures

All the information on the artifact assemblages was analyzed, coded on Fortran coding forms and sent to the Institute of Social Research at the University of Michigan for keypunching. As various segments of the data were keypunched, they were taken to the Michigan Computer Center, where the project account for computer services had been previously established, and lists of the raw data were made. These lists were then transported back to the laboratory where they were carefully examined for both keypunch and coding mistakes. After the card decks were "cleaned", they were returned to the University of Michigan Computer Center where the information was entered into the computer's file storage system.

The nucleus of the Michigan Computer Center is a high performance Amdahl 470v/6, which is similar in many respects, to the IBM/370 series. As with the IBM machines, the Amdahl exhibits a wide degree of flexibility regarding the types of input and output accepted by the system. For example, the 470 is linked to the Merit Computer Network, which allows direct communication between the computer at the University of Michigan and other computers located around the state. The Merit System also has the capability of communicating with other nationwide computer systems. The University of Michigan's computer system is operated by a set of programs called the MICHIGAN TERMINAL SYSTEM (MTS). These programs are responsible for every aspect of the computer's use from answering the simplest commands to updating each user's financial status at the end of each run. A detailed description of the University of Michigan's Computer Center facilities and capabilities is provided in the Introductory User Guide Series published by the computer center.

One of the major assets of MTS is the simplicity with which collections of data (files) can be entered, manipulated, and extracted from the system. Large data files may be read into computer memory, by creating a file name (generally descriptive in nature, user's choice, but must be less than eight characters in length) and loading the data into the file space allocated for the particular name. File storage then, is faster, plus it has the added advantages of file editing and manipulation over the use of more cumbersome card decks, which are more susceptible to error (e.g., misplacement or loss of a card).

For these reasons, it was decided to store the data for this project in computer memory. Two files were created for each major artifact category. Both safety and security concerns dictated this strategy. As a precaution against something or someone causing either partial or total destruction of one file, another file existing under a separate account number could be immediately accessed without loss of valuable time or information.

Once the data had been "cleaned" and put on file, the data reduction process began. One of the primary goals of this analysis was the development of a classification scheme based on the artifact's quantitative attributes. The first step in the classification procedure was to transform those variables which would act as groups for the interval level data to the ordinal scale of measurement. This transformation may be accomplished most effectively once the underlying

distributional qualities of the data are well understood. Statisticians have developed several simple methods to observe these properties of the data. Fortunately, the Michigan Interactive Data Analysis System (MIDAS) incorporates many of these methods under one procedure name called Describe.

The Describe procedure involves the computation of such statistics as the mean, median, mode, standard deviation, variance, skewness and kurtosis. These particular statistics measure such distributional qualities of the data as central tendencies (mean), degree of dispersion around the mean (standard deviation and variance), and the shape of the distribution (skewness and kurtosis). All variables coded in the lithic analysis as interval scale data were then subjected to the Describe procedure. The example below illustrates a typical printout of a Describe procedure conducted on a variable, in this case variable 9.

<u>Variable</u>	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Skewness</u>	<u>Kurtosis</u>
V9	280	180.00	430.00	245.44	33.929	1.470	4.526

Once all the Describe procedures had been completed, the information was used to reclassify the interval scale data into an ordinal scale of measurement. This was accomplished by forming categories equal to predefined increments from the mean. The increments used in this study represent the degree of dispersion around the mean or the standard deviation. For example, using variable 9 above, the point of origin was 245.44. Therefore individual members (scores) were classified into categories according to how many standard deviation units' (33.929) particular scores fell from the mean. After all the data were recorded into ordinal scale measurements, it was possible to perform the two-way and three-way cross-tabulations necessary for conducting the final phases of the data reduction process described below.

Projectile Points

The projectile point analysis is presented in two sections. The first section compares the relationships which exist between raw materials selected for projectile point manufacture, breakage patterns and lateral edge forms discovered in each of the geographically defined aggregates. It should be noted here that all the interpretations concerning the geographical patterning of artifactual traits discussed in this section are offered as possible explanations (given low frequencies, surface collected data, sampling basis, etc.) and serve only to provide future investigations with testable hypotheses concerning prehistoric land use patterning in the study area. The second section examines descriptive metric attributes of projectile points within a cultural-historical framework.

A total of 36 projectile points were discovered during the present survey. All of the projectile points were made from locally occurring metavolcanic materials. While the manufacture of projectile points of locally occurring materials is not unexpected, it is argued that variability should exist with respect to both the use and subsequent discard of tools made from these materials in relation to precise outcrop locations (see Figures 2 and 4) and the differential utility of each material to perform specific tasks. Table 5 was constructed to

TABLE 5
Comparison of Projectile Points and Raw Materials by Geographical Aggregates^Δ

Raw Materials	Aggregate 1					Aggregate 2					Aggregate 7					Aggregate 9					Totals		
	2	5	6	7	8	11	16	1	2	4	5	6	15	33	1	3	5	8	31	1		9	15
Clovis	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Hardaway/Dalton	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Palmer	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	5%
Kirk	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	8%
LeCroy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Stanly	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	2	5%
M. Mt. II	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	3%
Halifax	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5%
Savannah R.	2	-	-	-	-	-	-	2	-	-	1	-	-	-	-	1	-	2	-	-	-	8	22%
Otarre	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3	8%
Badin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	3%
Yadkin	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	1	-	-	5	14%
Sm. Triangular	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Unid. Stemmed	-	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	4	11%
Unid. Notched	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Totals	4	2	2	1	1	1	1	2	1	1	4	1	1	1	1	2	1	3	3	1	1	36	-
†Percentage	11%	5%	5%	3%	3%	3%	3%	5%	3%	3%	11%	3%	3%	3%	3%	5%	3%	8%	8%	3%	3%	3%	-
*Aggregate Percentage	34%	17%	17%	8%	8%	8%	8%	19%	9%	9%	36%	9%	9%	9%	20%	10%	10%	30%	30%	33%	33%	-	-

^Δ Explanation of Geographical Aggregates presented in Chapter IV (this report).

† See Appendix E for discussion of raw material categories (V6) and Geographical Aggregates (V43).

* Overall percentage calculated using n=36.

* Aggregate percentage calculated using n - the total number of projectile points discovered within each aggregate.

monitor raw material usage as reflected by projectile point types across the geographical aggregates included in the present survey. While the sample size of projectile points is small ($n=36$) several trends are visible in the data. First, the greatest variability in raw material use is contained within the main river channel of the New Hope drainage (aggregates 1 and 2). This is not surprising given the metavolcanic bedrock region forms the southwestern slope of the New Hope Valley (see Figure 2). Within the main channel, projectile points manufactured on two rock types occur most frequently: andesitic felsite in the lower valley and grey latite porphyry in the upper valley. The andesitic felsite material is associated with Early and Late Archaic point styles while the grey latite porphyry occurs primarily on point forms indicative of Woodland and Late Archaic periods. Unfortunately, given the low frequencies of these material types, it is not possible to discern if these patterns relate to changing procurement strategies through time or if the observed distribution reflects andesitic felsite quarries in the south and latite porphyry quarries in the north.

The breakage pattern analysis was conducted to observe patterning in the types of breaks which occur on projectile points. It is suspected that given the diversity of landforms and resource space represented by the various aggregates, variability in the frequency of breakage types should occur due to tasks conducted at specific locations within the study area. Also, an analysis of breakage patterns can inform at the functional level. Cable (in Taylor et al. 1982) argues:

Breaks which would not appear to render a tool inoperable, but which do result in its discard might indicate that this tool functioned within a very narrow range of constraints (i.e., the tool is highly specialized). A high incidence of repair modification to breaks might suggest a more general function.

The present study assumes that breakage on the blade element of a projectile point does not render a tool inoperable if a substantial area of the blade remains intact. Conversely, breakage to the haft element is a more serious matter requiring major repair effort and often results in the artifact being discarded.

Analysis of the discard and breakage patterns of projectile points (see Table 6) discovered in the present survey revealed several trends. First, the lower New Hope region, the most environmentally diverse area in the survey, is characterized by the highest incidence of breakage types. This pattern may be the result of base camp locations since base camps are the locus of numerous tasks (see Binford 1980) or the result of procurement strategies geared toward the exploitation of the diverse environments found in the lower New Hope drainage. Paleo-Indian and Early Archaic forms found in this region exhibit breakage and discard patterns indicative of a highly specialized technology. Four-fifths (80 percent) of tools dated to these periods suffer from blade damage. Middle Archaic through Woodland temporal periods (within this same region) reflect a reduction in the degree of tool specialization with only 29 percent of the discarded artifacts showing evidence of blade damage indicating an increased need for tool rejuvenation. The breakage and discard pattern of projectile points indicates the possibility of a changing land use pattern within the lower New Hope drainage with Paleo-Indian and Early Archaic groups utilizing this region for short time periods and very

TABLE 6

Comparison of Breakage Patterns of Projectile Points by Geographical Aggregates^Δ

Breakage	Aggregate 1								Aggregate 2								Aggregate 7								Aggregate 9								Totals
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
Clovis	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Hardaway	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Palmer	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5%
Kirk	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	8%
LeCroy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Stanly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5%
M. Mt. II	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Hahifax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5%
Savannah R.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	22%
Ovarre	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	8%
Badin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Yadkin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	14%
Sm. Triangular	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Unid. Stemmed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	11%
Unid. Notched	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3%
Totals	3	-	-	1	1	5	1	1	3	-	-	-	-	8	-	-	4	-	-	-	-	-	-	-	2	1	-	1	-	-	-	36	

*Percentage

*Aggregate Percentage

^ΔExplanation of Geographical Aggregates presented in Chapter IV (this report).[†]See Appendix E for discussion of Breakage Pattern categories (V7) and Aggregates (V43).[‡]Overall percentage calculated using n=36 or the total number of projectile points discovered during the present survey.[§]Aggregate percentage calculated using n = the total number of projectile points discovered within each aggregate.

specialized tasks. Conversely, later groups performed more varied tasks in the Lower New Hope River Valley as evidenced by their tool maintenance strategies.

The second pattern observed in Table 6 is the similarities which exist between the Upper New Hope drainage (aggregate 2) and the Parkers Creek drainage (aggregate 7). Both of these regions are characterized by relatively high incidences of unbroken projectile points and points with their tips missing. However, in the Upper New Hope region, two Early Archaic points (one Palmer and one Kirk) are whole. Beginning at the terminal Early Archaic period (Stanly points), all of the remaining projectile points, except one (an unidentified stemmed point), suffer from blade damage. In the Parkers Creek region, one intact Early Archaic LeCroy projectile point was found along with a Halifax, Savannah River and an unidentified stemmed point. The breakage pattern of tips missing still persisted in the Middle Archaic through Early Woodland periods but intact points were also being discarded during these times within the Parkers Creek region.

Analysis of lateral edge forms was another attribute selected for its ability to inform on potential functional characteristics of projectile point forms. As the intended use of a projectile point varies, so will its strategy of tool rejuvenation (Cable in Taylor et al. 1982), as monitored in the present study by lateral edge forms. Simply stated, finely serrated tools are created for the specialized purpose of cutting while evenly chipped stone tools reflect a more generalized cutting implement which could be used for a number of separate tasks.

Observation of Table 7 reveals a close resemblance in lateral edge forms across the New Hope River valley (aggregates 1 and 2) with most of the specimens exhibiting sinuous and evenly chipped edges. However, in the Parkers Creek drainage a variety of edge forms predominate. This evidence and the information provided by the discard and breakage patterns suggest that the Parkers Creek area was exploited for a variety of reasons. The close proximity of the creek to raw material sources and the broad expanse of bottomlands located in the adjacent lower New Hope drainage would have served as a central location for the exploitation of resources throughout the valley.

Projectile Point Descriptions

The following projectile points were recovered during the present survey within the cultural temporal framework established for the North Carolina Piedmont region (see Coe 1964).

Category 36 Clovis Projectile Point (Figure 24a)

The single Clovis projectile point discovered during this survey represents the first reported evidence of Paleo-Indian groups in the project area. Wormington (1975:263) describes this project type as "fluted lanceolate points with parallel or slightly convex sides and convex bases." The axial lengths of these points can vary from 1.5 to 5 inches with the flute usually extending half the length of the point. Although a large segment of the blade was missing, other measurements include:

TABLE 7
Comparison of Projectile Point Lateral Edge Forms by Geographical Aggregates^Δ

Lateral Edge Form	Aggregate 1					Aggregate 2					Aggregate 7					Aggregate 9					Totals
	1	2	4	5	9	1	2	4	5	9	1	2	4	5	9	1	2	4	5	9	
Clovis	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Hardaway/Dalton	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Palmer	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Kirk	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
LeCroy	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Stanly	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	2
M. Mt. II	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Halifax	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Savannah R.	-	-	1	1	-	-	1	-	2	-	1	1	1	-	-	-	-	-	-	-	8
Otarre	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Badin	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Yadkin	-	-	-	-	-	-	2	-	-	-	-	-	-	2	-	-	-	-	-	-	5
Sm. Triangular	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Unid. Stemmed	-	2	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	4
Unid. Notched	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Totals	-	7	1	4	-	1	7	-	3	-	1	3	1	4	1	-	2	1	-	-	36
†Percentage	-	19%	3%	11%	-	3%	19%	-	8%	-	3%	8%	3%	11%	3%	-	6%	3%	-	-	100%
* Aggregate Percentage	-	59%	8%	33%	-	9%	64%	-	27%	-	10%	30%	10%	40%	10%	-	67%	33%	-	-	-

^Δ Explanation of Geographical Aggregates presented in Chapter IV (this report).

[†] See Appendix E for discussion of Lateral Edge Forms (V32) and Aggregates (V43).

[‡] Overall percentage calculated using n=36 or the total number of projectile points discovered during the present survey.

* Aggregate percentage calculated using n= total number of projectile points discovered within each aggregate.

	Length			Width			Max. Thickness	Width 1/2 up
	Axial	Blade	Tang	Shoulder	Tang	Basal		Blade
Count	-	-	-	-	-	1	1	1
Mean	-	-	-	-	-	33	8	30
S	-	-	-	-	-	-	-	-

Category 38 Hardaway Side-Notched (Figure 24b)

Only a single specimen was recovered during the present survey. This side-notched projectile point is described by Coe (1964:67) as "A small, broad, thin blade with narrow side-notches and a recurved, concave basic." The broken specimen measured:

	Length			Width			Max. Thickness	Width 1/2 up
	Axial	Blade	Tang	Shoulder	Tang	Basal		Blade
Count	-	-	1	1	1	1	1	1
Mean	-	-	8	20	18	22	6	6
S	-	-	-	-	-	-	-	-

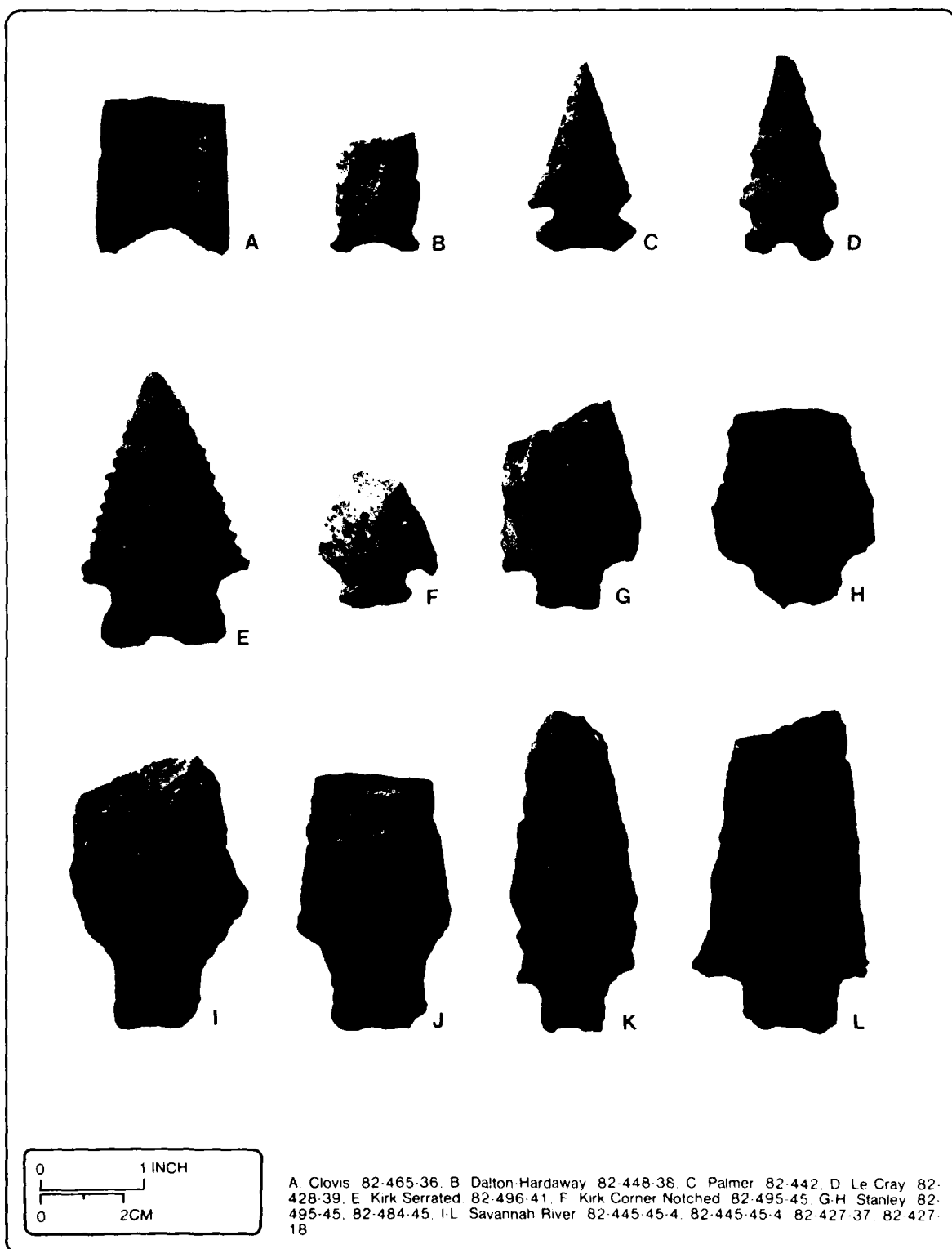
Category 39 Palmer Corner-Notched (Figure 24c)

Coe (1964:67) originally defined this point as "A small corner-notched blade with a straight, ground base and pronounced serrations." The blade form is small and triangular with usually straight but occasionally rounded or concave sides (Coe 1964). The two specimens found during the present survey have the following attributes:

	Length			Width			Max. Thickness	Width 1/2 up
	Axial	Blade	Tang	Shoulder	Tang	Basal		Blade
Count	1	1	2	1	2	2	2	2
Mean	47	37	9.5	26	16	21.5	6.5	19
S	-	-	.71	-	0	4.95	.71	5.65

Category 40 Kirk Corner-Notched (Figure 24f)

The Kirk Corner-Notched point was first defined by Coe (1964:69) as "A large triangular blade with a straight base, corner-notches, and serrated edges." Basal grinding is absent on these forms. The present survey resulted in the discovery of two broken specimens, both missing blade and base segments. Regardless, the following measurements were taken:



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FIGURE 24
PALEO-INDIAN/
LATE ARCHAIC
PROJECTILE POINTS

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	-	-	-	1	1	-	2	1
Mean	-	-	-	34	19	-	7.5	30
S	-	-	-	-	-	-	.71	-

Category 41 Kirk Stemmed-Serrated (Figure 24e)

Coe (1964:70) has described this point as "A long daggerlike blade with deep serrations and a broad stem." The blade on this point type is long, narrow, and thick with concave edges. The base is characterized as straight to slightly rounded (Coe 1964). Only one complete specimen was found during the present survey. The measurements of this point include:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	1	1	1	1	1	1	1	1
Mean	67	50	17	41	26	30	8	27
S	-	-	-	-	-	-	-	-

Category 43 Morrow Mountain II

The Morrow Mountain II Stemmed point is described by Coe (1964:37) as "A long narrow blade with a tapered stem." The edges of this point type are slightly rounded and excurvate at the shoulders. Many of these specimens show evidence of resharpening. The present survey resulted in the recovery of only one broken specimen. Although the blade element was missing, the following measurements were obtained:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	-	-	1	-	1	1	1	-
Mean	-	-	15	-	16	11	6	-
S	-	-	-	-	-	-	-	-

Category 45 Savannah River (Figure 24I-1, Figure 25 A-C)

The Savannah River Stemmed point was originally described by Coe (1964:44) as "A large, heavy, triangular blade with a broad stem." The base on this point type varies from straight to concave with the sides of the stem being straight and nearly always square (Coe 1964). This point type was found most frequently

during the survey. In all, eight specimens were recovered, providing the following summary statistics:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	1	1	8	8	8	7	8	8
Mean	77	66	18.5	38.50	20.75	19.57	10.88	32.13
S	-	-	6.63	7.54	4.68	3.10	2.23	4.02

Category 46 Otarre

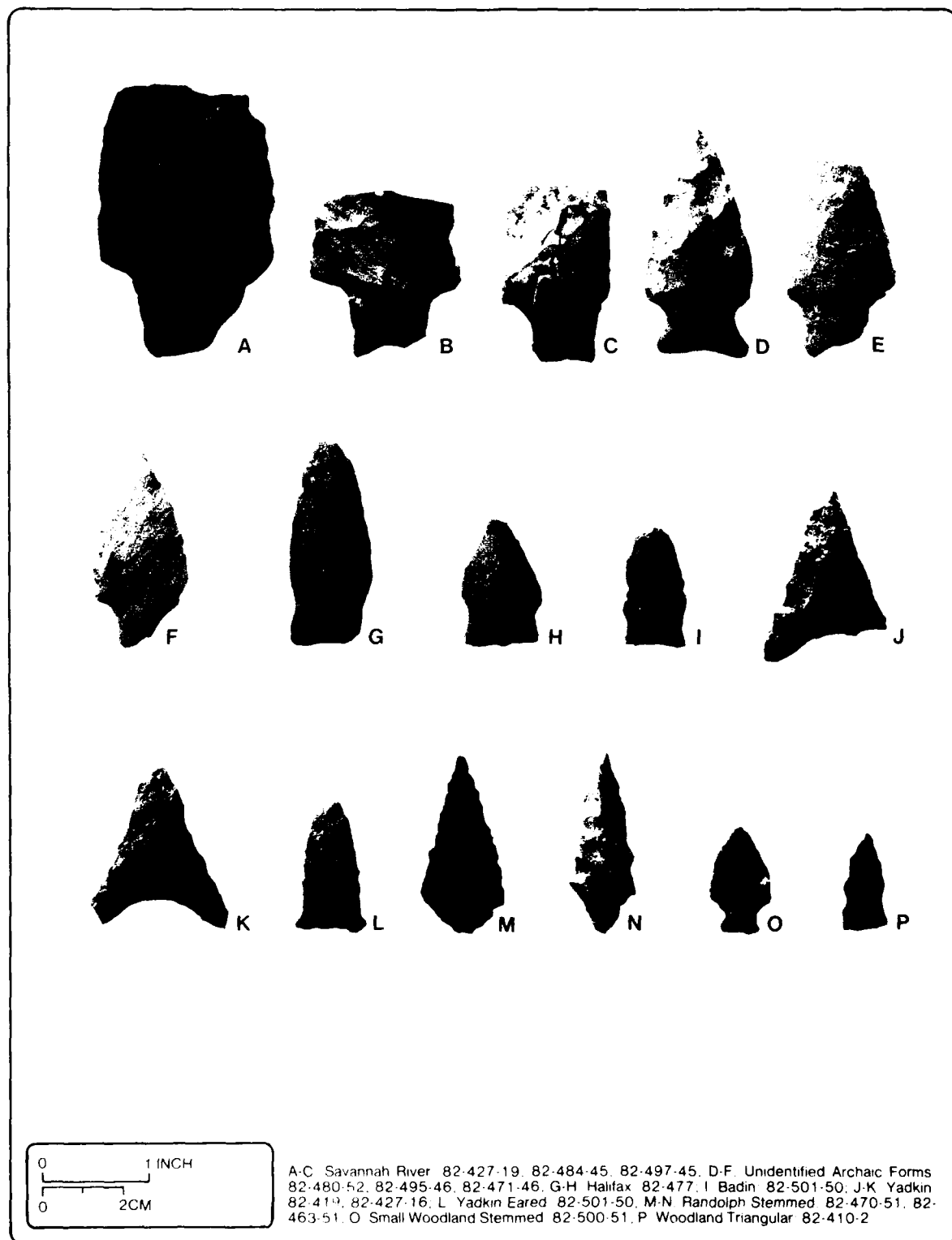
Keel (1976) originally described this point type, based on excavations in the Appalachian Summit region of North Carolina, as "a medium sized triangular-bladed stemmed point." Basal characteristics of this point can vary from straight, rounded or concave with a large number of them still retaining the original striking platform. The following metric attributes were taken on the three points of this type found during the survey.

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	1	1	2	3	3	-	3	-
Mean	49	37	13.6	26	16.67	-	8.67	21
S	-	-	2.12	1.73	.58	-	1.15	2.0

Category 49 Small Triangular (Figure 25P)

This point type reflects a number of potential classifications ranging from Late Woodland to Protohistoric times. The description given by Coe (1964: 112) for the Clarksville Small Triangular represents the nearest approximation for the point found during the present survey. Coe (1964) describes these points "as equilateral in shape" with the edges varying from straight to slightly convex. These points measured:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	1	1	1	1	1	1	1	1
Mean	24	14	10	11	12	12	5	8
S	-	-	-	-	-	-	-	-



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FIGURE 25
LATE ARCHAIC/WOODLAND
PROJECTILE POINTS

Category 50 Yadkin (Figure 25J, K)

Coe (1964:45) describes this point as "a large, symmetrical and well made triangular point" with a concave base. Five specimens, only two of which were whole, were recovered during the present survey and they measured:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	2	2	-	-	-	3	5	5
Mean	40.5	40.5	-	-	-	23	7	15.75
S	.70	.70	-	-	-	10.44	1.83	2.06

Category 51 Small Stemmed Woodland Point (Figure 25M-O)

This category of projectile points reflects a variety of small stemmed Woodland points. However, four of the specimens are similar to the Randolph stemmed points originally described by Coe (1964:50). These points are a crude tapered stem with a narrow blade width and thick crosssection. The last member of this category is unidentified as to cultural period. This point was manufactured on a small flake exhibiting retouch along the edges. The stem is squared with a straight base. The metric attributes of these points are described below:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	3	3	3	3	3	3	3	4
Mean	38.67	30	8.67	18	13	13.33	6.67	12.33
S	10.17	9.54	1.15	2.65	6.93	6.65	2.89	1.53

Category 53 Unidentified Notched Point (Figure 25D)

This category of projectile points has similar characteristics to the Transitional Period Orient Fishtail points defined by Ritchie (1959) in New York State. The one specimen found during the present survey is a medium sized corner-notched point with a triangular blade and a concave base. This point measured:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	1	1	1	1	1	1	1	1
Mean	57	41	16	26	17	22	7	22
S	-	-	-	-	-	-	-	-

Category 54 Badin (Figure 25I)

This category of projectile points is described by Coe (1964:45) as "a large crudely made triangular point" with a thinned concave base. Only one specimen was discovered during the survey and it measured:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	-	-	-	-	-	1	1	1
Mean	-	-	-	-	-	39	13	28
S	-	-	-	-	-	-	-	-

Category 55 Halifax (Figure 25I)

This category of artifacts is distributed across Virginia (Holland 1955) and eastern North Carolina (Coe 1964). Coe (1964:108) describes these points as having "slender blades with slightly restricted bases." The side notching is generally shallow and ground. The bases are also usually ground and straight. The present survey recovered two specimens which measured:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	2	2	2	2	2	2	2	2
Mean	41.5	28.5	13.5	20.5	17	9	8	17
S	13.44	10.61	3.45	.71	0	12.73	1.41	2.83

Category 81 LeCroy (Figure 24D)

These projectile points were originally described by Broyles (1966) from the excavations of an Early Archaic site in West Virginia. Various attributes of these points include broad to lanceolate blades with the edge outlines varying from excurvate to straight. The bases are notched, which creates expanding ears at the base. Only one specimen was found during the survey and it measured:

	Length			Width			Max. Thickness	Width 1/2 up Blade
	Axial	Blade	Tang	Shoulder	Tang	Basal		
Count	1	1	1	1	1	1	1	1
Mean	51	38	12	25	18	23	6	18
S	-	-	-	-	-	-	-	-

Category 82 Stanly Points (Figure 24G, H)

This point type is described by Coe (1964:35) as a "broad triangular blade with a small squared stem and a shallow notched base." Two specimens were recovered during the present survey providing the following requirements:

	Length			Width			Max. Thickness	Width
	Axial	Blade	Tang	Shoulder	Tang	Basal		1/2 up Blade
Count	-	-	1	2	2	1	2	2
Mean	-	-	21	38.5	21	19	9.50	31.0
S	-	-	-	2.12	2.83	-	2.12	4.24

Bifaces (see Figure 26A-L)

This study will assume that bifaces represent multifunctional tools capable of performing different tasks as situations occur. Biface morphology can then be viewed as a dynamic process where in the initial stage a biface "begins as a rather large, but transportable, piece of raw material" (Cable 1982b:144) which also serves as a hand held tool for heavy-duty tasks. Subsequent use of the biface as a raw material source for the production of flake tools will result in the gradual decrease in its thickness and edge perimeter (Cable 1982b), thus reducing the effectiveness of the biface for heavy-duty tasks. As the biface approaches the end of its life cycle in terms of tool use and flake production, increased symmetry and straighter edges result from the need to conserve raw material. Finally, through continual use, the biface can no longer function in the flake production process and becomes suitable for hafting purposes (Cable 1982b).

A total of eighty-eight biface or biface fragments recovered during the 1982 survey were analyzed. Seventy-six of these tools were sufficiently complete for the metric analysis. Using the arguments presented above, the analysis of bifaces began by subdividing the seventy-six tools into six categories based on their thicknesses. This procedure was accomplished by calculating the mean of standard deviation for the whole population of bifaces. A mean of 12 millimeters (mm) with a standard deviation of 6 mm resulted. Beginning with a mean of 11 mm as the point of origin, groups of bifaces were created every 6 mm from that point until the range of biface thickness found during the survey was included into the sample. That is to say, one category includes bifaces with a maximum thickness of 6 to 11 mm while a second category includes thicknesses of 12 to 17 mm. In total this classification scheme resulted in the creation of 6 biface categories described as follows.

Category I Bifaces

This category includes nine bifaces ranging in thickness from 4 to 6 mm. Six (66.6 percent) of the bifaces in this category are manufactured on latite porphyry, two (22.2 percent) on latite felsite or tuff and one specimen was manufactured on white vein quartz. The high representation of the latite porphyry and latite felsite in this category may relate to the fine knapping qualities of the

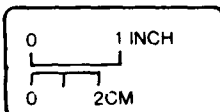
rock which enabled these specimens to be reduced to the final stage of biface reduction and possible hafting as projectile points or knives. The breakage pattern of Category I artifacts strengthens this argument with 77 percent of the tools being represented by biface tips or lateral sections presumably broken off in the performance of a task.

Category II Bifaces

This category includes 31 bifaces ranging in thickness from 6 to 11 mm with a mean average of 8.6 mm. The raw materials in this category are much more diverse and evenly dispersed than in the preceding category. However latite porphyry still dominates the assemblage with 32.3 percent of the specimens manufactured on this rock type. The next most common raw material type found in this group is welded tuff, which comprises 16 percent (n=5) of the sample. The remainder of the raw material types includes andesitic felsite (n=3: 9.7 percent) latite felsite (n=2:6.5 percent) white quartz (n=3:9.7 percent), felsite (n=2:6.5 percent), glomeroporphyritic latite (n=2:6.5 percent) and single representations of greenish-gray felsite, reddish-gray felsite and andesitic porphyry. One specimen was unidentified as to raw material type. Analysis of the breakage pattern indicates similarity to Category I with the presence of tips and lateral sections. However, also included in this category is a high frequency of midsections (n=5) and missing bases (n=7). What can be inferred from this is that Categories I and II are reflecting the terminal stages of biface reduction and discard of the items after breakage. Also, it would appear that when a biface is broken such that the basal portions of the item are missing, the tool is discarded immediately before further blade reduction is undertaken.

Category III Bifaces

The category includes 26 specimens ranging in thickness from 12 to 17 mm with an average group mean of 14.3 mm. Once again, latite porphyry (n=9 or 34.6 percent) is the most frequently occurring raw material type. Other raw materials found in this group, in descending order of importance, include andesitic felsite (n=4:15.4 percent), white quartz (n=3:11.5 percent), brownish-gray felsite (n=3:11.5 percent), greenish-gray felsite (n=1:3.8 percent), devitrified felsite (n=1:3.8 percent), reddish-gray felsite (n=1:3.8 percent) and crystal quartz (n=1:3.8 percent). There were three specimens that were unidentified as to raw material composition. The breakage pattern for these artifacts is considerably different from the two previous categories in that the most frequently occurring artifact (n=9:34.6 percent) condition is whole specimens. One explanation for the occurrence of whole bifaces in this category is that these tools no longer functioned as raw material sources for the production of flake tools and were discarded. However, an alternative explanation could be that these tools were indeed still functional and were cached in locations where future tasks were anticipated (cf. Binford 1979). The other frequently occurring tool condition found in Category III was transverse breaks resulting in the recovery of one end of the artifact. Due to the intermediate stage of the artifacts' life-cycle monitored by this category it is difficult to distinguish which end (proximal or distal) was recovered. Although other breakage patterns exist within Category III they represent infrequent occurrences, thus providing a clear distinction between this category, which



A-L Bifaces: A. 82-443-23, B. 82-428-29, C. 82-490-23, D. 82-436-18, E. 82-445-2, F. 82-445-20, G. 82-420-28, H. 82-460-1, I. 82-450-23, J. 82-464-1, K. 82-444-14, L. 82-436-17
M-V Unifaces: M. 82-490-22, N. 82-434-13, O. 82-419-1, P. 82-490-21, Q. 82-427-14, R. 82-484, 108, S. 82-484-110, T. 82-445-28, U. 82-448-20, V. 82-469-2.

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FIGURE 26
BIFACIAL & UNIFACIAL
CHIPPED STONE TOOLS

represents an intermediate stage of biface reduction, and the two previous categories.

Category IV Bifaces

This category includes 6 bifaces ranging in thickness from 18 to 22 mm with a group mean of 18.8 mm. Both latite porphyry (33.3 percent) and andesitic felsite (33.3 percent) contribute the highest percentages of raw material types found in this group. The remaining two specimens were manufactured on brownish-gray felsite and chert respectively. The predominant breakage pattern was the transverse break, similar to the previous category.

Category V Bifaces

This category includes 3 bifaces with thicknesses of 25 to 27 mm and a group mean of 25.7 mm. Raw materials represented in this group include andesitic felsite (n=1:33.3 percent), and welded tuff (n=1:33.3 percent). One specimen was not identified as to raw material type. Breakage patterns within this category are random, with each specimen representing a different condition. There was one whole specimen, one incidence of a transverse break and one specimen with a tip missing.

Category VI Bifaces

This category is represented by a single large bifacial tool with a thickness of 39 mm. The artifact was manufactured from latite felsite.

Unifaces (see Figure 26M-V)

A total of 28 unifacial flake tools or tool fragments were recovered during the 1982 survey. These artifacts were divided into four size class categories consisting of 1) 1-20 mm; 2) 21-40 mm; 3) 41-60 mm and 4) 61-80 mm.

Category I Flake Tools

This category is represented by a single broken crystal quartz uniface.

Category II Flake Tools

This category is represented by six whole and seven broken unifacial flake tools. The evidence suggests that there is no correlation between raw material selection and the manufacture of flake tools within this size class. For instance, of the flake tools comprising this category there are eight different raw material types represented. The two most frequently occurring types are white vein quartz (n=2) and latite porphyry (n=2). One specimen was unidentified as to the type of raw material.

Category III Flake Tools

This category is represented by seven whole and four broken unifacial tools. Once again no clear preference is indicated for the selection of particular raw materials for the production of flake tools. However, latite porphyry and white vein quartz still represent the most frequently occurring rock types in this category.

Category IV Flake Tools

This category is represented by two whole specimens and one broken specimen. Each of these artifacts was manufactured using different raw materials, including green latite porphyry, gray latite porphyry and reddish-gray felsite.

Summary

The fact that a high diversity of raw materials was recovered for each of the uniface categories is not surprising. Hayden (1977:182) observing aboriginal use of flake tools in Australia's Western Desert region notes that three factors determine retouch intensity on flake tools: 1) quality or availability of raw material, 2) appropriateness of an edge for resharpening and 3) events which happen during the completion of a particular task. All three of these factors characterize the use of flake tools as situational in nature. That is to say, when the need arises for a flake tool, it is manufactured on the spot and usually discarded upon completion of the task. This would be particularly true at the B. Everett Jordan Dam and Lake where raw materials are readily available from numerous outcrops of metavolcanic rocks (see Figure 2).

Cores

Cores were identified as large masses of stone exhibiting at least one surface from which one or more flakes has been removed. A total of nine specimens exhibiting these characteristics were recovered during the 1982 survey. Raw material types in this artifact category include andesitic felsite (n=3), white vein quartz (n=2), green latite porphyry (n=1), latite felsite (n=1), welded tuff (n=1), and gray latite porphyry (n=1). The abundance of locally occurring raw materials in the project area is believed to be a factor in the diversity of raw materials represented in this category; however, it is interesting that the frequency of platform preparation increases on those specimens found near metavolcanic bedrock outcrops. Two of the three cores found in the Roberson Creek recreation development area (located along the Haw River and adjacent to bedrock outcrops) exhibited numerous platform preparations while the cores recovered from survey items further removed from the bedrock outcrops exhibited none or only one platform. This evidence suggests that archeological sites located near the metavolcanic outcrops served as the locus of intensive core reduction activities associated with the production of large flakes or bifaces. Alternatively, cores found in other areas of the reservoir represent the final stages of core reduction and were removed from the quarry sites after they were reduced to the point of being easily transported.

Debitage

A total of 1591 flakes were recovered and analyzed from the 1982 survey. The analysis procedures included investigations into raw material composition reduction stage and size class categories (see Table 8). Analysis of thedebitage indicates a decided preference for the use of latite porphyry and andesitic felsite, given these two raw materials comprise 47 percent of thedebitage assemblage. Surprisingly, very few flakes of these materials exhibited cortical material, a diagnostic indicator for initial cobble reduction. However, the close proximity of bedrock outcrops may indicate quarrying activities instead of cobble exploitation. Unfortunately, much of the present survey was located away from the upland areas most likely to contain quarry workshops (see Cable 1980 for discussion of quarry sites). The size class distribution of latite porphyry and andesitic felsite indicates that the felsite is much more variable in size than the latite porphyry. This pattern has also been observed in the upland areas of the North Carolina Piedmont. Analysis of materials recovered from a felsite and andesite porphyry quarry site along the Highway 421 corridor (Cable 1980) resulted in the identification of two reduction strategies related to these raw materials. The felsite was quarried in such a manner that "pieces of raw material large enough to yield flake blanks of a specialized size for subsequent tool manufacture" (Cable 1980:65) were desirable. These flake blanks were then either bifacially thinned into final form or were transported in their original blank form to other locations (Cable 1980). The andesite porphyry, in contrast, is dominated by a strategy where the reduction of raw nodules and chunks into bifacial forms took precedence over flake blank production (Cable 1980). One consequence of the andesite porphyry strategy was the abundance of cortical material on the dorsal surface of the flakes. While no quarry sites were found during the present survey, the andesitedebitage does exhibit a higher frequency of cortical material and a greater size difference than the latite is to porphyry. This is to be expected if a biface reduction strategy is related to the andesite raw material.

The preponderance of secondary flakes (96 percent) and the overwhelming frequency of flakes below 40 mm indicates a strong homogeneity in the assemblage. It would appear, given these data, that the areas surveyed were exploited in technologically very similar ways.

HISTORIC ARTIFACT DESCRIPTION

Presented below is a description of the historic artifacts recovered during the present survey. Each site's assemblage is discussed in terms of artifactual groups as defined in Chapter V. Also, individual artifacts providing historic clues to occupation dates are discussed in detail.

31Ch484

At this site, four shovel tests were placed around the inside of the structures' foundations. From the first shovel test, two fragments of window glass, in the Architecture Group, were produced. The next shovel test revealed nine fragments of window glass and one wire nail from the Architecture Group, and one shotgun shell casing from the Arms Group. The Architecture Group dominated the third shovel test, also, with five fragments of window glass, one fragment of

TABLE 8

ANALYSIS OF RAW MATERIAL REDUCTION STAGE AND SIZE CLASS CATEGORIES

Raw Material	Frequency (n=1591)	Reduction Stage (n=1576)			Size Class (n=1503)					
		Primary	Secondary	Tertiary	1	2	3	4	5	6
Green Latite Porphyry	419	2	416	1	213	162	20	4	0	0
Andesitic Felsite	325	10	315	0	107	167	41	7	1	0
Latite Felsite	102	4	98	0	62	27	5	0	0	0
Welded Tuff	51	1	50	0	27	17	3	0	0	0
Gray Latite Porphyry	138	2	133	0	72	56	5	1	0	0
White Quartz	176	23	150	0	89	58	6	0	0	0
Felsic Porphyry	61	2	59	0	22	27	5	0	0	1
Brownish-Gray Felsite	51	2	49	0	21	17	5	1	1	0
Greenish-Gray Felsite	5	0	5	0	3	2	0	0	0	0
Glomeroporphyritic Latite	61	2	59	0	23	34	3	1	0	0
Devitrified Felsite	9	0	9	0	4	3	1	1	0	0
Reddish-Gray Felsite	60	1	59	0	27	25	8	0	0	0
Andesitic Porphyry	12	0	12	0	5	5	2	0	0	0
Latite Tuff	14	0	14	0	9	5	0	0	0	0
Chert	4	0	4	0	3	1	0	0	0	0
Crystal Quartz	15	3	12	0	9	1	0	0	0	0
Unidentified	88	9	70	0	33	32	9	2	0	0
Totals	1591	61	1514	1	729	639	113	17	2	1
Percentage	-	(3.9)	(96)	(.06)	(48.5)	(42.5)	(7.5)	(1.1)	(.13)	(.07)

Size Class Categories:

1. 1-20 millimeters
2. 21-40 millimeters
3. 41-60 millimeters
4. 61-80 millimeters
5. 81-100 millimeters
6. 101-120 millimeters

roofing tin, five machine-cut nails with machine-made heads and one wire nail. One rock was also located in the shovel test. The fourth shovel test produced one fragment of blue banded (annular) whiteware (ca. 1830-1900) from the Domestic Group and one fragment of window glass from the Architecture Group. One fragment of solarized manganese glass (ca. 1880-1915), two fragments of clear glass (one very thick flat fragment), and two pale aquamarine glass fragments, all from the Domestic Group, were found in the last shovel test on this site.

31Ch486

The general surface collection of this site included one partial aquamarine glass patent medicine bottle with indented sides and embossed letters, dating from ca. 1903-1930s (Figure 27E); one whole clear glass machine-made patent medicine bottle, again with embossed lettering, dating from ca. 1909-1923 (Figure 27A); one partial gray salt glazed stoneware 4-gallon butter churn (Figure 29E); one partial molded whiteware chamberpot (Figure 29F); one whole hurricane lamp chimney of solarized manganese glass, from the Dietz Lamp Company and dating from ca. 1880-1914; one fragment of a lead glazed storage crock (rim and partial large body fragment); and one gray salt glazed stoneware storage crock base, all from the Domestic Group. The controlled surface collection produced one aquamarine glass patent medicine bottle with indented sides and embossed lettering located on the side panels which reads "R. V. PIER" on one side and "Buffalo, N.Y." on the other side (Figure 27B). This bottle also belongs in the Domestic Group.

Shovel tests were placed inside the structural foundations, revealing one hand-wrought nail and one machine-cut nail with a machine-made head, from the Architecture Group.

31Ch487

Two shovel tests were placed at this site which produced material. The first shovel test contained a portion of an iron hinge strap, only 2-3/8 inches long, from the Hardware Group and five machine-cut nails with machine-made heads from the Architecture Group. The second shovel test contained only an iron hinge strap, 9-1/4 inches long, from the Hardware Group.

31Ch570

This site is primarily a prehistoric site; however, the general surface collection produced one flattened fragment of lead from the Miscellaneous Group, and a shovel test produced one machine-cut nail with a machine-made head from the Architecture Group.

31Ch512

Two shovel tests placed on this site each produced one wire nail representing the Architecture Group.

31Ch526

From the general surface collection of this site came four machine-cut nails with machine-made heads and two wire nails, from the Architecture Group. A shovel test placed in the vicinity of this house site revealed one more machine-cut nail with a machine-made head and six more wire nails representing, again, the Architecture Group.

31Ch531

Items from several of the artifactual groups were found on this site. The Domestic Group is represented by six fragments of salt glazed stoneware from at least four separate vessels, one plain whiteware fragment, one lead glazed stoneware fragment, one medium blue bottleneck fragment, three thick clear glass fragments, one white opaque glass vase fragment, and two fragments of solarized manganese glass. The Stable and Barn Group consists of one horseshoe (Figure 28 D) which probably dates from the latter half of the nineteenth century. The Arms Group is represented by one shotgun shell casing of cardboard and metal. All of the material mentioned was located during the surface collection of the beach bordering the site. From another area of the site, four fragments of window glass, seven machine-cut nails with machine-made heads, and one wire nail, representing the Architecture Group, were collected.

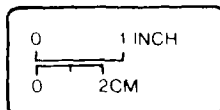
31Ch534

This site is classified as primarily prehistoric. Two plain fragments of whiteware, one dark green fragment of whiteware with a light green band, and one fragment of refined red earthenware with a lead glaze, all from the Domestic Group, were collected from the surface of this site, as well as one machine-cut nail with a machine-made head from the Architecture Group.

31Ch538

Among the artifacts from this site which fall into the Domestic Group are three fragments of plain whiteware, fifty-four fragments of clear bottle glass, including two bottle bases and one thick glass fragment, one light aquamarine glass fragment, and one amber/brown fragment of a whiskey flask dating from the period between 1933 and the 1950s. This whiskey flask fragment is embossed with numbers and letters which help to date the fragment. Two fragments of a Mason jar lid seal, of opaque white glass, are also among the domestic artifacts collected at this site, as well as two iron cooking pot handles.

From the Architecture Group, eleven machine-cut nails with machine-made heads and two wire nails are present in the collection. These nail types were first manufactured in the late 1830s and the 1860s/1870s respectively and are still being made today. Two fragments of window glass and ten brick fragments were found on the site as well.



A-C E. Patent Medicine Bottles: 82-417, 82-417, 82-453 ST1, 82-417. D. Medicine Vial (Hand Blown): 82-453 ST2. F. Ball Mason Jar Base: 82-464.

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FIGURE 27
HISTORIC BOTTLES &
BOTTLE FRAGMENTS

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RECREATIONAL DEVELOPMENT AREA..(U) COMMONWEALTH
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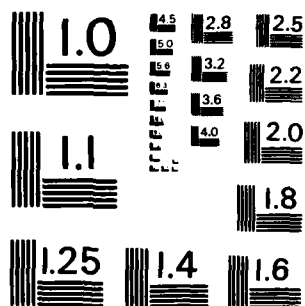
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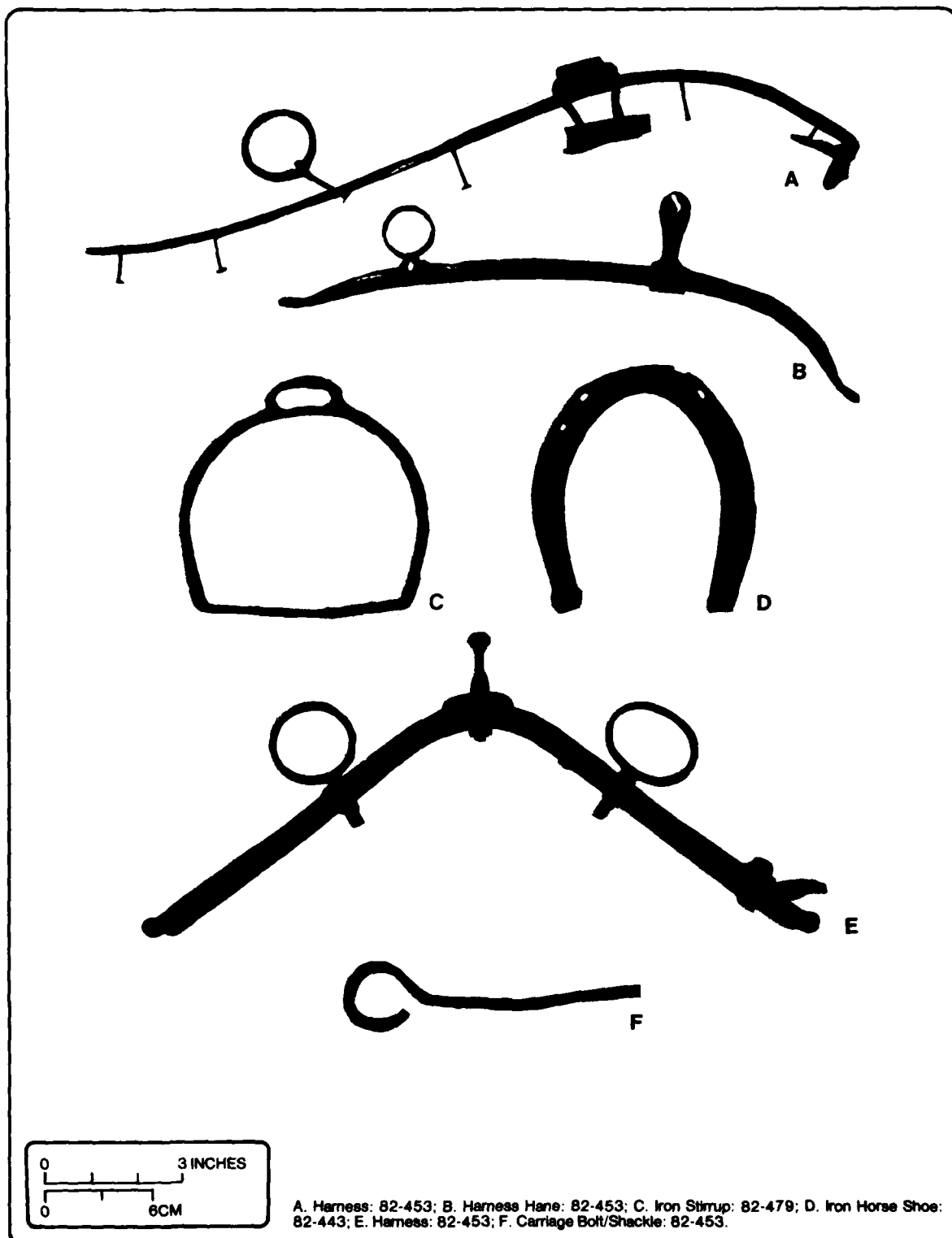
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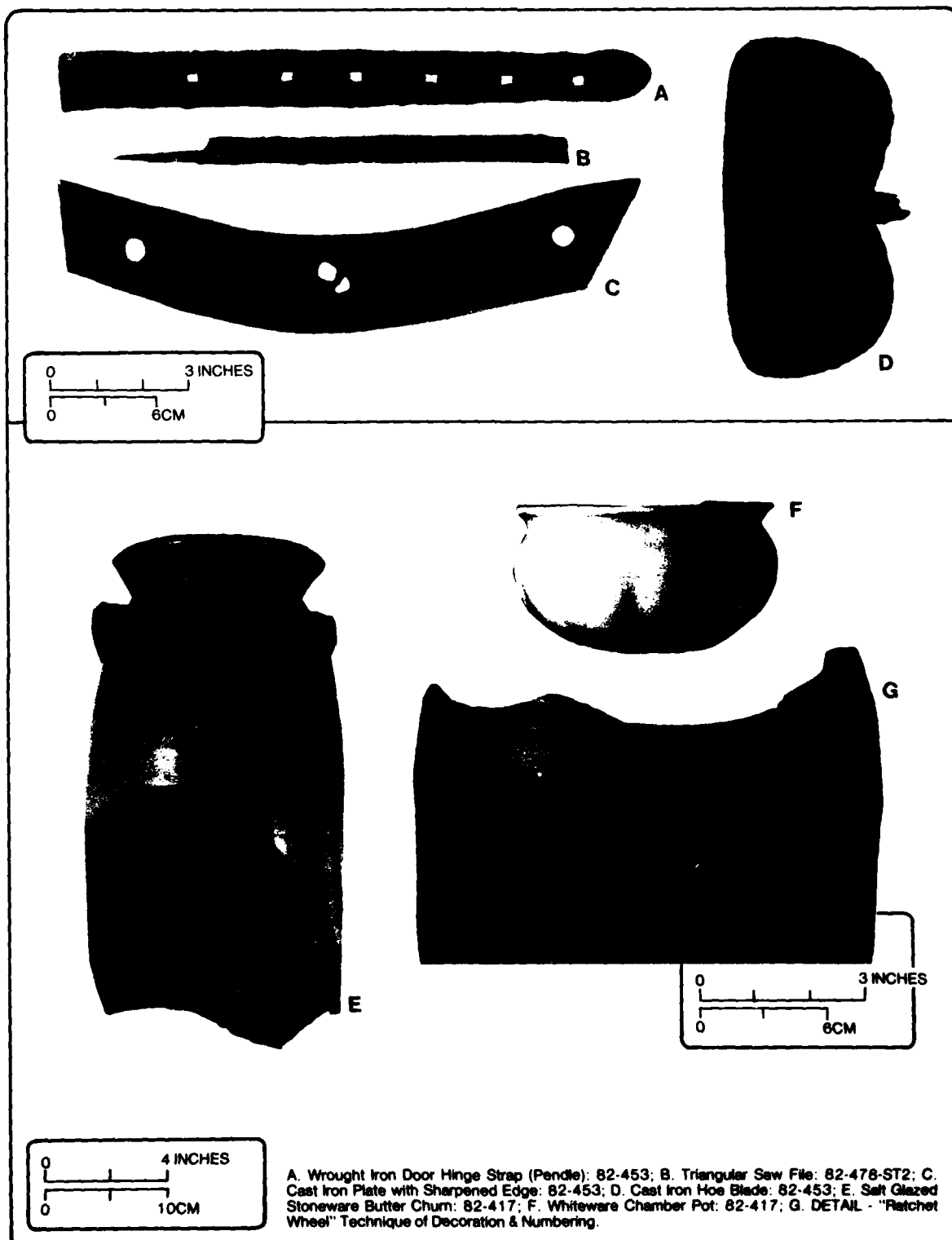
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



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FIGURE 28
STABLE & BARN
RELATED ARTIFACTS



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FIGURE 29
MISCELLANEOUS
HISTORIC ARTIFACTS

The Hardware Group is represented on the site by one iron lock washer, 5/8 inch in diameter. The rest of the artifacts, one tin fragment, one copper ring, one rubber strip, and five thin metal fragments, fall into the Miscellaneous Group.

31Ch539

One base and two body fragments of gray salt glazed stoneware form the entire Domestic Group for this site. Seven brick fragments and fifteen nails, five machine-cut with machine-made heads and ten wire, make up the Architecture Group. The Miscellaneous Group consists of one writing slate. A quartz rock was also included in the collection.

31Ch540

At this site the small amount of artifacts collected consisted of one plain curved fragment of whiteware, representing the Domestic Group, and three machine-cut nails with machine-made heads, representing the Architecture Group.

31Ch541

From this site, one of the largest collections of historic artifacts from the Jordan Dam and Lake was recovered, not only from the surface of the site, but also from several excavation units and shovel tests placed in and around the various structures located on the site (see Figure 17).

The majority of the artifacts were located within and adjacent to a building labeled Structure 5 on the map. In the Domestic category, the remains of a large gray salt glazed stoneware storage crock were found on the ground surface inside the foundations of the building. These remains consisted of only fragments of the body of the crock, no base and no mouth having been located (see Figure 29G). This crock is noteworthy because it exhibits a peculiar method of imprinting the volume on the vessel. This method is known as the "notched wheel" technique and denotes the manufacturing origin of the crock as Moore County, North Carolina, where this particular method of decorating salt glazed stoneware was popular in the mid-to-late nineteenth century. The storage vessel was a six gallon crock made of red clay and had no interior glaze. As well as the number inscribed on the outside, there are two indented rings around the vessel at the shoulder.

The first excavation unit (a 1 x 1 m unit) was placed within the structure's foundation where the storage crock had been located. From this excavation unit the Architecture Group was represented with a total of seventy-one nails; one wrought iron nail, which dates from the seventeenth century until approximately 1820, was found along with fifty-seven machine-cut nails with machine-made heads, seven wire nails, and six nails that were too corroded to be analyzed. The Domestic Group consisted only of two metal buttons with the words "Allen Overall" on them. The Farm Group category included a large, heavy curved piece of iron (Figure 29C). This "blade" consists of a blunt back and flat sides with irregularly shaped holes drilled through the metal. The "blade" tapers to a beveled, sharpened edge on the inside curve of the metal. This piece of metal could have

been bolted to another, lighter piece of metal or to wood to form a rough scythe, corn cutter or "horse hoe."

The Hardware Group was rather heavily represented in Excavation Unit No. 1 with pieces such as a large wrought iron door hinge strap (Figure 29A). One particular feature of this hinge strap is the square holes which suggest square wrought nails being used to fasten the strap to the wooden surface in place of screws. This type of hinge strap was in use as a common house-door hinge from the Colonial period through approximately 1783, when it was supplanted by the cast iron hinge type (Mercer 1923:10). According to Mercer, however, these same hand-wrought hinges continued to be used on outer doors, window shutters, barns and other outbuildings long after 1783 (Mercer 1923:13). Further examples of the Hardware Group taken from the excavation unit consist of a large metal washer (2-1/2 inch diameter), two large staples, six bolts, two large bolt nuts, one screw, one railroad spike (6 inches long), two other large spikes (6-1/2 and 7-3/4 inches long), one possible carriage bolt with screw threads (9-1/4 inches long), two possible carriage shackles or shaft couplings (one of which is illustrated in Figure 28F), and three miscellaneous hardware pieces. Also included in the Hardware Group were several lengths of chain and two hooks, one broken and one still attached to one of the lengths of chain. These last items might have been included in the Harness Group as well.

As it is, Excavation Unit No. 1 in Structure 5 revealed an extremely large quantity of harness equipment. Several of the more definitive artifacts belonging to the Stable and Barn Group are illustrated in Figure 28A, B, and E. These artifacts show only minor corrosion and, in some places, still retain small bits of leather around the bolts. Separated from these larger pieces, but also retaining fragments of leather, were thirteen bolts and two metal studs. Two more large harness pieces were found in this excavation unit. One is a less well preserved harness hame similar to the one in Figure 28B, and the other is a long (7-1/4 inches), slightly curved metal rod with one end shaped like a hook, in the loop of which is a buckle. The other end is broken. In all, twelve buckles were found in this excavation unit, covering a wide range of sizes and styles. One buckle has the remains of a metal strap still attached. Also found in this unit were thirteen harness rings of different sizes, usually made of brass or copper. One metal plate with a copper stud was located with the rest of the harness equipment, as well as twenty-two unidentified metal pieces thought to belong to a harness.

A second excavation unit was placed in the center of a depression within the foundation of the structure. From this excavation unit only one small fragment of gray salt glazed stoneware, representing the Domestic Group, was found. However, the Architecture Group was represented by seventy-six nails, of which seventy-four are machine-cut nails with machine-made heads, one is a wire nail and one was in too poor condition to be analyzed.

The evidence of the material culture located from within this one building, Structure 5, points to a possible early to middle nineteenth century construction date, with subsequent rebuildings and possible changing functions. The artifacts, especially the well preserved harness equipment, indicate that the building's final function in the not too distant past was that of a barn or stable. The difficulty of placing a closing occupation date on the structure based on the material culture alone stems from the fact that in the rural regions of the South today the poorer farmers, still use mules to plow fields and pull wagons, and their

harness equipment, for the most part, resembles that of the late nineteenth century.

Examination of the rest of this site consisted of mainly surface collection and shovel tests. The first shovel test, south of Structure 2, revealed a partial small medicine bottle (Figure 27C) assigned to the Domestic Group. The small bottle is cylindrical and made of hand-molded clear glass, with probable embossing on the panel which would place the date of manufacture after 1880. The bottle has an applied lip. The Architecture Group is represented in this shovel test by one window glass fragment and one brick fragment.

Another shovel test located south of Structure 2 revealed seven fragments of ceramics from the Domestic Group, one fragment of a red earthenware without a glaze, one fragment of a coarse red earthenware with a red glaze on only one side, one fragment of white earthenware with little glaze remaining, one fragment of whiteware with a "Flow Blue" design, and three fragments of plain whiteware. The "Flow Blue" method of decoration was introduced on whiteware in the period from the mid-to-late nineteenth century (Price 1979:22). Plain whiteware has been manufactured from the early nineteenth century up to the present day. The Architecture Group in this shovel test consists of two fragments of window glass and four nails, all machine-cut with machine-made heads.

Yet another shovel test dug south of Structure 2 produced one large heavy iron plow part, a fragment of a plow share, representing the Farm Group. A shovel test placed near a standing chimney on the east wall of an "I" house, produced one Domestic Group artifact, a flat fragment of light brown/amber bottle glass, the kind of glass used in bottling certain alcoholic beverages (i.e., whiskey and beer).

A shovel test located north of the "Big House" in the area of a formal garden produced a small widemouth, clear glass medicine vial. The bottle was free blown, as demonstrated by the asymmetry of its form, and has an applied lip (Figure 27D). Small medicine vials such as this were common until around 1860, after which time they became more specialty bottles. This bottle, however, post-dates 1898, the year the law went into effect requiring all goods imported into the United States to bear the country of its origin somehow imprinted on it. The small vial located at this site has England etched in acid on its bottom. The interior of the neck is also acid etched for a stopper to be used. The pontil (base) of the bottle has been ground out and polished, marking this item as a carefully made, fairly expensive piece of work.

Other shovel tests revealed one more item of the Domestic Group, a fragment of a plain white porcelain saucer, and another Farm Group implement, a cast-iron hoe blade with a shank tapering to a pointed end for insertion into the wooden shaft (Figure 29D). This hoe probably represents a mid-to-late nineteenth century farming implement (possibly as late as the early twentieth century).

31Ch543

The artifacts from this site fall into two groups, the Architecture Group and the Hardware Group. The Architecture Group consists of 32 machine-cut nails with machine-made heads, 66 wire nails, and one nail too corroded to

analyze. One wood screw (1-1/2 inch), one wire staple (3/4 inch), one wrought iron staple (1/4 inch), one five-link wire chain section, and one cast-iron door latch plate make up the Hardware Group.

31Ch552

Part of the general surface collection at this site encompassed a refuse pile lying north of the house foundations. From this refuse pile came one-half of a plain whiteware pitcher, one partial white lead glazed six gallon storage crock, one aquamarine Mason jar base (Figure 27F), and one cast-iron cooking pot lid to make up the Domestic Group. No other group of artifacts was recovered from this refuse pile. The Mason jar base appears to have been machine-made and, due to the prominence of the number on the bottom and the letters on the small side fragment, it appears to date from the period between 1903 and the 1930s.

The driveway leading to the house site was another area collected in the general surface survey, with the result that in the Domestic Group there were found two fragments of plain whiteware, three fragments of hand-painted polychrome whiteware, which date from approximately 1830 to 1860 or later (Price 1979:21), and one fragment of a bottle base with a raised dot design. The Architecture Group was represented in the collection by one machine-cut nail with a machine-made head.

Shovel tests were also placed in various areas around the site. One located outside the building foundation near a chimney fall recovered two fragments of window glass and four nails, three machine-cut nails with machine-made heads and one in too poor condition to be analyzed, for the Architecture Group. A second shovel test in the vicinity of the other chimney fall produced four machine-cut nails with machine-made heads, representing the Architecture Group, and one flake of corroded metal from the Miscellaneous Group.

Another shovel test placed within the foundations near this latter chimney fall revealed the Architecture Group predominant again with nine nails, all machine-cut with machine-made heads. A final shovel test placed within the structure's foundations midway between the two chimney falls resulted in two machine-cut nails with machine-made heads and one nail too badly corroded to analyze, representing the Architecture Group.

31Ch94

This site is primarily a prehistoric site with one artifact from the Domestic Group appearing in the general surface collection. One complete jelly jar/glass from the post-1940s was found. The glass has straight sides until it flares out approximately one and one-half inch from the bottom. Around the bottom of the glass is a design of an embossed circle within a diamond. The base of the glass is textured and has the symbol of a Pennsylvania glass manufactory.

31Ch555

This site is also primarily a prehistoric site with only one small fragment of a highly corroded metal from the Miscellaneous Group appearing in the historic artifacts.

31Ch564

Five shovel tests were placed in various areas of this site. The first shovel test revealed artifacts from the Architecture Group, consisting of eight hand-wrought nails and eleven machine-cut nails with machine-made heads, and the Miscellaneous Group, consisting of the remnant of a sheet of copper. The next shovel test produced more artifacts from the Architecture Group, including one fragment of window glass, one fragment of roofing tin, one fragment of mortar, eight hand-wrought nails, one machine-cut nail with hand-made heads (dating from the 1790s to the 1830s), four machine-cut nails with machine-made heads, and two wire nails. The Hardware Group is represented by one two-inch wood screw with bolt.

In a third shovel test, the Architecture Group remained predominant with one fragment of window glass containing bubbles, five hand-wrought nails and two machine-cut nails with machine-made heads. Two strands of wire make up the Hardware Group, while the Farm Group consists of one triangular saw file (Figure 29B) which has a squared back and tapers to the front. It is machine-cut as evidenced by the evenly spaced grooves cut into each face of the file.

A shovel test inside the structural foundations revealed two pieces of clear glass for the Domestic Group. These two fragments could be table glass or bottle glass. The other artifacts belong to the Architecture Group: one hand-wrought nail, four machine-made nails with machine-made heads, and one wire nail.

A final shovel test outside the foundations of the building produced four examples of bottle glass for the Domestic Group: one thick amber/light brown rectangular base, not machine-made and probably used for some medicine with a high alcoholic content; one medium blue glass fragment with Bromo Seltzer embossed on it; one fragment from a panel of a solarized manganese medicine bottle (using manganese to make clear glass medicine bottles became common after 1880); and one partial Pepsi bottle made of aquamarine glass. The Pepsi bottle is not machine-made. There is a pronounced step on the mold line. The bottle has evidently had lots of reuse as there is a heavy wear edge along the outside of the bottom. The bottle has the embossed letters not only of the brand name Pepsi-Cola, but also of the city where it was being bottled, Durham, North Carolina. This bottle was made before 1909.

31Ch565

The general surface collection from this site consists of one fragment of dark gray salt glazed stoneware with an interior glaze from the Domestic Group, along with one fragment of white opaque glass, possibly a fragment of a Mason jar lid seal. The Architecture Group is represented by five nails, three machine-cut

nails with machine-made heads and two wire nails. From the Stable and Barn Group, one badly corroded iron English stirrup was found (Figure 28C). Stirrups like this one may come from either Ladies' or Men's English saddles and different styles, including this one, are represented in the Sears 1893 or 1897 Catalog. One flat piece of iron represents the Miscellaneous Group in the general surface collection.

Several excavation units were placed in various areas around the site. The first excavation unit, located near the west chimney of the Main House foundations, produced for the Domestic Group one whiteware plate fragment which was polychrome stenciled overglaze with a molded design along a scalloped edge (1830s -1860s), eight fragments of a clear glass machine-made medicine bottle with a rectangular base and rounded shoulders, five fragments of extremely thin clear glass (possible light bulb), and one machine stamped metal button, dating possibly from ca. 1837 - ca. 1865. Two brick fragments, one wrought iron nail, one hundred eighty-three machine-cut nails with machine-made heads, and six wire nails comprise the Architecture Group and one strand of wire makes up the Hardware Group. One hickory nutshell was also included in the collection.

Excavation Unit 2 also located at the Main House foundations, has a Domestic Group represented by one plain pearlware bowl fragment (ca. 1780 -1830) and one small plain whiteware fragment. The Architecture Group from this unit consists of one brick fragment, four fragments of window glass, twenty machine-cut nails with machine-made heads and three wire nails. Two strands of wire represent the Hardware Group.

Excavation Unit 3, placed at the first outbuilding, produced six wire nails from the Architecture Group. Excavation Unit 4, at the same location, revealed one wire nail from the Architecture Group and, from the Hardware Group, one long wrought iron bar (16-1/4 inches long) with screw threads on the bottom.

31Ch492

This site, while primarily a prehistoric site, did contain two historic artifacts from the Domestic Group, two small "Flow Blue" decorated whiteware rim sherds.

31Ch505

The general surface collection from this site included one small fragment of alkaline glazed stoneware, five fragments of whiteware, including one plain plate fragment and one blue molded handle fragment, one half of a porcelain saucer, which was hand-painted overglaze and had a reddish-orange rim with black outline, one fragment of amber/brown bottle glass, eleven clear bottle glass fragments, two aquamarine glass Ball jar fragments, three fragments of an opaque green glass vase, two fragments of milk glass, including one small handle, two fragments of solarized manganese glass (a probable vase), three clear glass vase fragments, one plastic button and one large iron stove plate fragment, all in the Domestic Group. The Architecture Group consists of four brick fragments and five nails, two machine-cut nails with machine-made heads and three wire nails (one bent into the shape of a hook). Representing the Hardware Group is one large

wrought iron staple (4 inches long and 1-3/4 inches wide). The Miscellaneous Group contains one carbon interior of a flashlight battery. Closer to the house site, the general surface collection contained a sample of the Arms Group: one badly corroded musket ball, 5/8 inch in diameter.

Several shovel tests were placed in transects around the house and out-buildings of this site. In the first shovel test, only a few artifacts were recovered, consisting of three fragments of clear glass from the Domestic Group and one wire nail from the Architecture Group. The second shovel test revealed one fragment of window glass, representing the Architecture Group, and one fragment of carbon with a metal cap from the Miscellaneous Group. From the third shovel test came one nail which was too badly corroded to identify, from the Architecture Group, and one lump of iron from the Miscellaneous Group. Only one small fragment of clear glass, representing the Domestic Group, was found in the fourth shovel test. The Architecture Group is the only group represented in the fifth shovel test with one brick fragment and eighteen fragments of window glass, and the sixth shovel test with one wire nail. The next shovel test produced one fragment of clear glass with a square corner, which belongs to the Domestic Group.

The Domestic Group in the eighth shovel test consists of one fragment of clear bottle glass and two other fragments of clear glass (possible vase). The Architecture Group is represented by one brick fragment and two wire nails and the Hardware Group by three short strands of wire. The remaining artifact was one piece of coal belonging to the Miscellaneous Group. Two lumps of iron, also belonging to the Miscellaneous Group were revealed in the next shovel test. In the tenth shovel test, the Architecture Group is represented by two brick fragments and two fragments of window glass. The Miscellaneous Group consists of one very thin, very corroded fragment of metal. An excavation unit placed inside the foundations of a log structure produced two fragments of plain whiteware and one fragment of clear glass from the Domestic Group and two brick fragments, fourteen pieces of roofing tin, nine machine-cut nails with machine-made heads, and six wire nails from the Architecture Group.

Summary

Analysis of the historic artifact assemblages (see Tables 9 and 10) recovered during the present survey indicate that the middle class farmer pattern observed in the Jordan data sets differs from that reported in the Carolina Artifact Pattern by having a higher representation of the Architect Group - 58 percent versus 25.5 percent - and a lower Kitchen/Domestic Group - 29.1 percent versus 66.3 percent (South 1977:107). This percentage for the Carolina Artifact Pattern is derived from combining the mean percentages of South's Kitchen Group, Clothing Group and Personal Group, all of which are a part of the Domestic Group of the middle class yeoman farmer pattern. By combining the percentages of the Stable and Barn Group, the Hardware Group, the Farm Group, and the Arms Group, which are all represented under South's Activities Group, the difference in percentages stands at 1.7 percent for the Activities Group (South 1977:107) versus 4.5 percent for the combined groups of the middle class farmer behavior pattern.

Taylor and Smith (1978:351) propose a new pattern, based on their survey data, which they call the Piedmont Survey Pattern. In the definition of this pattern, two factors of their sites are assumed to be responsible for the quantities

TABLE 9
HISTORIC ARTIFACT ASSEMBLAGES RECOVERED FROM THE PRESENT SURVEY AT THE R. EVERETT JORDAN DAM AND LAKE

Site	Domestic										Architectural			Stable and Barn		Herdsmen		Farm		Miscellaneous
	Ironware	Brick	Other Glass	Stove Parts	Cooking Utensils	Personal	Nails	Window Glass	Brick	Roofing tin	Mortar	Hammocks	Bedding	Herdsmen	Farm	Hay	Grain	Feed	Other	
MOA1	3	36	-	-	2	-	13	2	10	-	-	1	-	-	-	-	-	-	-	7
MOA2	1	-	-	-	-	1	15	-	7	-	-	-	-	-	-	-	-	-	-	1
MOA3	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA4	3	-	-	-	-	2	151	3	1	-	-	79	-	-	-	-	-	-	-	-
MOA5	-	-	-	-	-	-	99	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA6	7	2	-	-	1	-	21	2	-	-	-	-	-	-	-	-	-	-	-	1
MOA7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOA100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10
HISTORIC ARTIFACT ASSEMBLAGES RECOVERED FROM THE PRESENT SURVEY AT THE R. EVERETT JORDAN DAM AND LAKE

Site No.	Ceramics					Nails		Glassware											
	Stoneware Sub-glazed	Stoneware Alumina-glazed	Stoneware Lead-glazed	Earthenware Peachware	Earthenware Whiteware	Earthenware Miscellaneous	Porcelain	Hand Frought	Machine Cast	Machine Cut I	Machine Cut II	Wigs	Medicine	Whiskey	Soda	Food/Storage	Tableware	Ornamental	Misc.
30A318	-	-	-	-	3	-	-	-	-	-	11	2	-	1	-	-	-	-	55
30A319	1	-	-	-	-	-	-	-	-	-	5	10	-	-	-	-	-	-	-
30A340	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-
30A341	3	-	-	-	5	2	1	1	-	-	135	8	2	1	-	-	-	-	-
30A343	-	-	-	-	-	-	-	-	-	-	32	66	-	-	-	-	-	-	-
30A352	-	-	1	-	6	-	-	-	-	-	19	-	-	-	-	1	-	-	1
30A344	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1/ jelly jar glass	/ 1	-	-
30A355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30A356	-	-	-	-	-	-	-	22	-	1	21	3	3	-	1	-	-	-	2
30A363	1	-	-	1	2	-	-	1	-	-	206	18	1 (8 frag.)	-	-	-	-	-	6
30A372	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30A385	-	1	-	-	7	-	1	-	-	-	11	13	-	-	-	2	2	8 frags	21
30A404	-	-	-	-	1	-	-	-	-	-	5	2	-	-	-	-	-	-	5
30A406	2	-	1	-	1	-	-	1	-	-	1	-	3	-	-	-	-	1 harri- cane chimney	-
30A437	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-
30A370	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
30A312	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
30A326	-	-	-	-	-	-	-	-	-	-	5	8	-	-	-	-	-	-	-
30A331	-	-	1	-	1	-	-	-	-	-	7	1	-	-	-	-	-	1	6
30A334	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

of artifacts located: surface visibility and the amount of damage done to the site. They state:

In general, the greater the surface visibility, the larger the number of artifact groups represented, and the higher the percentage of Kitchen Group artifacts present. The greater the amount of damage to a site, the fewer the number of Artifact Groups represented and the higher the percentage of Kitchen Group artifacts present (Taylor and Smith 1978:352)

Taylor and Smith attribute the continued high percentage of the Kitchen Artifact Group to the durability of the ceramics which are the primary representative class in this group. They explain that for the length of time the artifacts have been deposited (less than 200 years) ceramics will have withstood decomposition better than the metal artifacts which would compose the Architecture Group. Ceramics might also be more readily visible than the metal items, presumably covered in rust.

Here again there is a major difference in the mean frequency ratios of the two survey patterns, with the Piedmont Survey Pattern registering 87.78 percent for the combined Kitchen, Clothing and Personal Groups and 12 percent for the Architecture Group as opposed to the middle class farmer pattern with 29.1 percent for the Domestic Group and 58 percent for Architecture. The Activities Group makes up only .2 percent of the Piedmont Survey Pattern, again as opposed to 4.5 percent for the combined groups in the middle class farmer pattern.

It appears that the artifact patterns identified from the present survey are unique in that more architectural-related artifacts, especially nails, were located than is common to find surviving on an archeological site. However, this can be partially explained by the location of test units inside the structural remains where artifacts indicative of this group are expected to occur. Perhaps if test units had been located in different areas of the site where other artifactual groups occurred, the overall contribution of the architecture group would have been greatly diminished. Unfortunately, the dense vegetation which covers most of these sites made the time investment for locating these areas prohibitive. This is not to say that the present survey did not attempt to locate obvious trash disposal areas and wells. Indeed, much time was spent clearing vegetation and surveying the surrounding environs. Given the time constraint, it was decided to conduct most of the testing operations inside the structures, where the probability of recovering information relating to the original occupation of the site was greatly enhanced. Without question, the sampling bias introduced into the present survey results should be questioned by future investigators at these or other sites with regard to the proposed middle class farmer pattern.

HISTORIC STILL SITES 31Ch43, 31Ch287

Sites 31Ch43 and 31Ch287 were discovered during pedestrian survey of the proposed Roberson Creek recreational area. Both sites are located along an unnamed spring-fed stream which feeds into the Haw River. The location,

morphology, and artifactual content of the sites indicate they were generated by the unique folk industry known popularly as "moonshining."

The origins of the art of distilling alcohol beverages are obscure, but archival evidence indicates the practice was firmly established in Ireland and Scotland by the Middle Ages (Dabney 1978:34). Scotch-Irish are descendants of Scottish settlers transplanted to Northern Ireland after 1610, in an effort to consolidate the political power of the British Crown. Mass immigration of Scotch-Irish to America began during the eighteenth century, and up to 400,000 Scotch-Irish had arrived by 1776, bringing whiskey-making as part of their cultural baggage (Dabney 1978:40).

The history of Scotch-Irish settlement in America may be correlated to economic stress in England, Ireland, and Scotland. By the 1740s "large numbers of Scotch-Irish and Germans were moving into backcountry North Carolina, chiefly from Pennsylvania, but also from New Jersey, Maryland, and Virginia" (Leffer and Newsome 1973:81).

In his history of moonshine manufacture Dabney (1978:46) notes:

By the 1750s, according to North Carolina historian R.D.W. Corner, distilling had come to be considered one of the chief industries of the colony. A western North Carolinian of the same period wrote in his will: "I leave the still for the benefit of the family whilst my wife keeps house with the children."

Repeated attempts by the federal government to impose excise taxes on liquor met violent opposition as early as 1791, during the Whiskey Rebellion. Excise taxation did not become a permanent legal fixture until the Civil War. Enforcement began to threaten distillers in the southern mountains in 1867 (Dabney 1978:74; Garrow 1983).

Reaction of southerners to this unwelcome Reconstruction Era legislation, was predictably dour and early revenue collectors were provided with federal escort troops. Lt. Colonel George Custer, fresh from Indian wars in the West, was called in during guerilla warfare with Kentucky moonshiners in the 1870s. Carr (1972:33) quotes the Commissioner of Internal Revenue's report of 1878:

So formidable has been the resistance to the enforcement of the laws that in the districts of fifth Virginia, sixth North Carolina, South Carolina, second and fifth Tennessee, second West Virginia, Arkansas, and Kentucky, I have found it necessary to supply the collectors with breech-loading carbines.

By 1880, 26 revenue collectors had been killed, and 57 wounded (Carr 1972:38).

North Carolina led the Southern states in the number of violations in 1879 (Carr 1972:38). Newspapers in Chatham County ran editorials protesting

federal interference in home distillation. The Chatham County Record of October 17, 1878, also noted vain attempts at resistance on the state level:

The suits brought by the State of North Carolina against the Revenue agent, Wagner, and some twenty other Federal revenue officers on charges of excess authority in making arrests of illicit distillers and others, which were tried yesterday at Greensboro, resulted in the acquittal of the entire party with one exception.

Enforcement efforts continued for the rest of the nineteenth century. Manufacture of liquor remained a major industry in North Carolina. In 1895, legal grain distilleries numbered 733, and fruit distilleries over 1,300; the illicit industry was estimated as very much larger (Dabney 1978:104). The industry was so much an economic mainstay that manufacture of liquor remained legal after North Carolina "went dry" in 1908. Newspapermen and politicians in the early twentieth century officially supported efforts at prohibition, yet maintained traditional drinking folkways in their private lives. Dabney (1978:104) provides one example:

A North Carolina newspaper told a visiting reporter: "I reckon we're what you'd call drinking prohibitionists. This paper, for instance, is dry in policy and principle, but" - and here he pulled a bottle from his desk - "how about joining me in a little shot of corn?"

Chatham County newspapers joined in condemning strong drink as local moonshining apparently thrived. The Chatham County Record of April 4, 1917 notes:

The capture of a blockade still in this county has become of so frequent occurrence that it does not arouse much interest, but four in one week is alarmingly frequent. And yet that was done in this county last week, and even there were many more not captured. Two were captured last Friday night several miles apart and by different officers. One of them was captured by Deputy-sheriff J. P. Bradsher last Friday night about two miles east of Siler City, and about the same time Deputy-sheriff S. G. Gunter and some revenue officers from Raleigh captured another still about nine miles west of here, in Hickory Mountain Township. Next morning the same officers captured a still in the northwest corner of Baldwin Township. The fourth still for last week was the one captured about four miles north of Siler City, as published in last weeks' Record. It is greatly to be regretted that no person was captured at any one of these stills.

Moonshining only became more profitable with the onset of Prohibition in 1920. The average capacity of stills increased, and technological innovations were developed in an effort to meet a rising demand. Still sites 31Ch43 and 31Ch287 exhibit characteristics in form and location that place them in this time period.

Critical to the success of an illegal still was the selection of a proper site. Dabney (1978:80) outlined locational considerations:

The early moonshiner chose his still site with great care. The first requirement was a good stream of cool water - preferably soft water free of minerals such as iron, which will ruin a run of liquor. Next was the requirement of seclusion, where no one ever traveled or thought of traveling. Naturally this would be a considerable distance into the mountains away from any inhabited neighborhood. Usually the site was in a deep hollow covered on both sides with a heavy growth of mountain laurel or timber, with hills high enough so the smoke would be absorbed by the atmosphere before reaching the summit.

As Pat Garrow (1983:104) observes in his report of excavations of a groundhog still in the Piedmont of Georgia, whiskey stills once so common in the Southeast are rarely recorded during archeological survey. During survey of the Richard B. Russell Reservoir area Richard Taylor discovered remains of a contemporary still site and later visited the area with Cantley. While under-represented, still sites are worthy of study. The two still sites recorded during this survey, 31Ch43 and 31Ch287, do not meet established criteria for nomination to the National Register of Historic Places; however, they should be recognized and recorded as representing a colorful folk-industry important to the heritage of the region. Investigations at 31Ch43 and 31Ch287 are sufficient to allow cultural resource clearance.

The locations of still sites 31Ch43 and 31Ch287 were evidently chosen with the environmental attributes described above firmly in the minds of the builders. Both sites are within close proximity of a small, spring-fed stream. The stream lies at the base of a steep banked hollow. Ravine walls north and south of the streambed rise to an elevation 200 feet above that of the sites. The sites and environs are thickly wooded with mature stands of pine and mixed hardwoods. They are located far from public roads, and reaching the sites requires a challenging hike through dense vegetation.

31Ch43 and 31Ch287 represent the remains of a type of still developed during the Prohibition Era, known as the groundhog still. Groundhog stills were dug into the side of creekbanks, and usually featured a partially buried large metal cylinder. Combustible fuel was piled around the cylinder, which contained the fermented mash (Dabney 1978:xxi). A groundhog system had a more efficient furnace that would emit less telltale smoke, thus aiding a moonshiner in keeping his activity discreet.

31Ch43 is defined by a rectangular pit measuring 4 feet east-west by 7 feet north-south. It is 3 feet deep, and represents the furnace in which the groundhog pot was placed. The sole artifact associated with the former still is an iron flywheel 27 inches in diameter. The wheel's rim is broken, and rim fragments lie nearby. Steam boilers, such as those used formerly in steam-powered tractors and mills, were frequently requisitioned for use in still construction. The flywheel may have been removed as part of the conversion process. Another possibility is that the wheel was used to transport the heavy groundhog pot to the still locations, or even from still to still (Carr 1972:201). Shovel testing failed to produce

artifactual material from the pit floor. Soil in the pit bottom was dark black, perhaps indicating burning; however, no charcoal was recovered.

31Ch287 is also defined by a rectangular pit, dug into a stream bank. The pit measures 6.5 feet east-west by 8 feet north-south, and slopes toward the center, having a maximum depth of 5 feet. Again, the pit represents the remains of the groundhog furnace. A small trench extends from the south edge of the pit toward the streambed. It is 6 feet long, 6 inches wide, and 4 inches deep. Such a trench may have contained the pipe which led from the groundhog pot resting in the furnace to the doubler and condenser. The condenser required cold water to condense the alcoholic vapors into liquid. The cool stream water located nearby was probably used for this purpose. Associated with the still at 31Ch287 is a large, riveted iron tank, located 33 feet due east of the pit. It is ovoid-cylindrical, measuring 9.5 feet long, 4 feet wide, and 3 feet high. The tank originally was intended as part of a transport wagon, or early tanker truck. Three round openings, 9 inches in diameter, were cut into the top of the tank. These would facilitate the loading of mash into the tank, an opening that would lead to the doubler and condenser pipes, and an opening to allow for overflow when the tank would boil over. No other artifactual material was noted at the site. Subsurface tests in the pit floor yielded only blackened soil.

CULTURAL AFFILIATIONS

The cultural affiliations for the archeological sites discovered during Commonwealth's 1982 survey (see Table 11) are based on diagnostic projectile points (Coe 1964), and historic structural remains (Bealer and Ellis 1979).

Paleo-Indian

Only one site (31Ch552) contained evidence of this cultural period. To date, this represents the first recorded site dated to the Paleo-Indian period at Jordan Lake, excluding the Dalton occupations which some investigators consider Late Paleo-Indian occupations (McCormick 1970). The site containing the Clovis fluted point is located on the second terrace overlooking the New Hope River. The lack of Paleo-Indian sites within the reservoir area indicates that the New Hope River drainage may have been used only sporadically during this time.

Dalton-Hardaway

The sites 31Ch536 and 31Ch552, were assigned to this cultural period based on the Dalton Hardway points as defined by Coe (1964). In the case of 31Ch552, assignment was made on the basis of the private collection of a local collector who has collected from site 31Ch536 for a number of years. Both sites are located on terraces along the lower reach of the New Hope River. Site 31Ch536 is situated on the third terrace while 31Ch552 is located on the second terrace overlooking the floodplain.

The Dalton-Hardaway occupation of terrace locations is substantiated by previous research in the area. Smith (1965) and McCormick (1970) were responsible for the discovery of eleven sites containing Dalton occupations. Nine

TABLE 11

**Cultural Components by Landforms
Discovered During the Present Survey**

	<u>Bottomlands</u>			<u>Uplands</u>		<u>Totals</u>
	<u>T₁</u>	<u>T₂</u>	<u>T₃</u>	<u>Ridgetop</u>	<u>Ridgetoe</u>	
Paleo-Indian	-	1	-	-	-	1
Dalton	-	1	1	-	-	2
Archaic						
Early	-	3	3	2	-	8
Middle	-	1	1	-	-	2
Late	-	4	4	2	-	10
Woodland						
Early	-	3	3	-	-	6
Middle	-	2	1	-	-	3
Late	-	1	1	-	-	2
Mississippian/Protohistoric	-	-	-	-	1	1
Prehistoric Subtotals	-	(16)	(14)	(4)	(1)	(35)
Percentage	-	(46%)	(40%)	(11%)	(3%)	(100%)
19th Century Historic						
Homesites	-	1	-	11	3	15
Surface Scatter	-	1	1	1	-	(3)
Graveyards	-	-	-	2	-	(2)
Tobacco Barn	-	-	-	1	-	(1)
20th Century Historic						
Homesites	-	1	-	11	2	14
Surface Scatter	-	1	-	-	-	(1)
Graveyards	-	-	-	1	-	(1)
Liquor Stills	-	-	1	1	-	(2)
Tobacco Barn	-	-	-	1	-	(1)
Historic Subtotals	-	(4)	(2)	(29)	(5)	(40)
Percentage	-	(10%)	(5%)	(72%)	(13%)	(100%)
Grand Total	-	20	16	33	6	75
Total Percentage	-	27%	21%	44%	8%	100%

of these sites (eighty-two percent) are located on the first, second or third terraces with the remaining two sites located in various upland settings (see Table 12). Although this evidence would suggest a riverine orientation during the Dalton period, this must be viewed with some skepticism. Coe's excavation of the Hardaway site, located on an upland ridge, indicates an extensive use of upland environments. The absence of upland Dalton sites in the study region is believed to be a result of sampling bias favoring the bottomland habitat. Most of the previous surveys conducted before the creation of the lake focused on areas below the 240 foot (flood pool) contour interval.

Early Archaic

A total of eight sites have been assigned to the Early Archaic time period based on the presence of diagnostic projectile points including one LeCroy, 2 Palmer, 3 Kirk and 2 Stanly. The distribution of Palmer and Kirk points accords well with the results presented by Smith (1965:150) in that the Palmer points are found in the central and northern reach of the New Hope River drainage while the Kirk points are homogeneously distributed across the project area. A single LeCroy point was found in the south-central region of the lake. Data recovered from both the Haw River sites (see Claggett and Cable 1982) and Smith's (1965) survey indicate the highest frequency of these points is found in the lower reaches of the drainage. Smith (1965:151) notes the sites containing Stanly points "occur chiefly on low rises in the lowlands." However, the two Stanly points located during the present survey were geographically dispersed with one point found in the uplands overlooking the Haw River and the other point discovered in the north-central region of the New Hope drainage.

The distribution of the eight Early Archaic sites with regard to topographic situation indicates that 75 percent of these sites are located on terraces as compared to 72.5 percent on previous surveys. Both the second and third terraces are equally represented by the sites discovered on the 1982 survey, with three sites occurring on each terrace. The remaining two sites are located on ridgetops above the 250 foot contour. Interestingly, both of these sites are the same locations where Stanly points were found.

Middle Archaic

Two sites, 31Ch516 and 31Ch536, contained artifacts from the Middle Archaic cultural period. Site 31Ch536 is included in this sample on the basis of artifacts shown to the author by a private collector. Both of these sites are located on terraces overlooking the central region of the New Hope drainage. The low density of Middle Archaic sites is somewhat surprising given the number of previously recorded Middle Archaic sites in the project vicinity. Of a sample of 185 sites recorded by Smith and McCormick, 77 sites were identified as containing Morrow Mountain I and II or Guilford projectile points. Landform distribution of these sites include 72.8 percent located on terraces, 3.9 percent located on levee or levee remnants and 23.4 percent located in various upland situations. The second and third terraces were the most preferred areas of occupation, contributing 63.7 percent of all Middle Archaic site locations. This accords well with Smith's (1965:151) observations with regard to the distribution of Guilford sites which were more abundant in the lowlands near water sources.

TABLE 12
Cultural Components by Landforms
Information Summarizing 186 Previously Recorded Sites*
at the B. Everett Jordan Dam and Lake

	Level	Bottomlands			Uplands			Total
		T ₁	T ₂	T ₃ *	Ridgetop	Ridgetoe	Saddle	
Paleo-Indian	-	-	-	-	-	-	-	-
Dalton	-	2	3	4	1	1	-	11
Archaic								
Early	2	4	15	15	7	4	-	47
Middle	3	7	22	27	10	8	-	77
Late	2	11	28	28	7	8	1	85
Woodland								
Early	1	5	7	6	1	-	-	20
Middle	2	6	1	5	-	1	-	15
Late	-	3	3	4	-	1	-	11
Mississippian/Protohistoric	-	-	-	-	-	-	-	-
Prehistoric Subtotals	10	38	79	89	26	23	1	266
Percentages	(4%)	(14%)	(30%)	(33%)	(10%)	(9%)	-	(100%)
19th Century Historic	-	1	1	-	3	1	-	6
Unid. Colonial	-	5	12	22	6	2	-	-
Historic Subtotals	-	6	13	22	9	3	-	53
Percentages	-	(11%)	(25%)	(42%)	(17%)	(5%)	-	(100%)

*Many of the sites located on this terrace were originally discussed as upland sites. Re-evaluation of the elevational data for these sites resulted in their reclassification as T₃ sites (see geomorphology section this report).

*See Smith (1964) and McCormick (1970).

Late Archaic

A total of ten sites have been assigned to this time period based on the presence of diagnostic points including the Savannah River and Otarre projectile point forms. Savannah River points were found on six of the sites while Otarre points were found on only four. The distribution of Otarre points was dispersed with specimens found in all of the regions surveyed. However, the Savannah River point type was found in the New Hope drainage but was absent in the locality of the Haw River. Eight of the ten sites discovered during the present survey were located on terraces, a pattern similar to the one observed on previous surveys. Also, seven of the sites are located along the New Hope River with the remaining two sites discovered along Parkers Creek and the Haw River, respectively. Using the data obtained from the 185 previously recorded sites, the site location preference of Late Archaic groups appears to focus on the upper and lower reaches of the New Hope drainage. In fact, out of a sample of 85 Late Archaic sites, 40 (47.1 percent) are found in aggregate 1 (see Figure 25), 17 (20 percent) are located in aggregate 2 and 8 (9.4 percent) sites are found in aggregate 4. The remainder of the sites occur infrequently in the remaining aggregates. This intensive use of the New Hope River bottomlands (82 percent of the 85 sites are located on terraces or levees) confirms the extensive exploitation of riverine environments during this period.

Early Woodland

Six sites were assigned to this cultural period based on the presence of Badin projectile points and ceramics. Site 31Ch511 was the only site where ceramics was found during the survey. The landform analysis indicates that both the second (n=3; 50 percent) and third (n=3; 50 percent) terraces were evenly divided by the number of Early Woodland occupations. In a broader geographical sense, five of the six sites are located in the central or northern regions of the study area. In comparing this geographic information to the information derived from the 185 previously recorded sites, a pattern of utilization appears in which the upper reach of the New Hope drainage (aggregate 2) and the smaller tributaries were preferred occupational locations during this period. This apparent shift to the exploitation of headwaters and smaller drainages during the Early Woodland contrasts sharply to strategies used by Late Archaic groups who focused much of their attention on the main drainage. Interestingly, this period coincides with a warmer, drier climate (see Larson in Claggett and Cable 1982). During this period, the resource structure may have constricted into smaller patches, forcing a change in subsistence-settlement strategies. Evidently, changes in the resource structure were sufficient in the main drainage to cause a settlement shift to the headwater regions where desirable resources could be obtained more easily. Similar distributions of Early Woodland sites have been observed by researchers working in other areas of the North Carolina Piedmont (Claggett, personal communication). Unfortunately, the precise nature of Early Woodland subsistence-settlement strategies cannot be answered here, but must await future investigations of archeological sites located in these regions.

Middle Woodland

Three sites were assigned to this cultural period based on the presence of Yadkin projectile points and ceramics. Two Middle Woodland sites are located on the second terrace and one site is located on the third terrace. The distribution of prerecorded sites (see Table 12) indicates a similar pattern of terrace utilization with 17 (93.3 percent) Middle Woodland sites situated on terrace or levee landforms. While the sample of sites recorded by Smith and McCormick indicates the heaviest occupation occurred within aggregate 1 (n=7 or 46.7 percent), numerous single occupations were observed in every minor drainage within the project area except Bush Creek. The evidence suggests that although there appears to be increased use of the lower New Hope drainage during the Middle Woodland there is also a continued reliance on the headwater region of the main drainage and the smaller tributaries. The location of a limited number of sites in each of the smaller tributaries is interesting. These sites may represent seasonal camps or specialized activity locations occupied on a temporary basis for extracting resources to be used at the larger base camps located on the terraces of the New Hope Valley. Although this explanation is plausible, further research must be undertaken before Middle Woodland settlement strategies can be ascertained for the New Hope River Valley.

Late Woodland

Two sites contained Uwharrie projectile points indicative of this cultural period. These two sites are distributed on the second and third terrace of the Lower New Hope drainage. This accords well with the information obtained from the prerecorded sites (see Table 12) in which 90 percent of the sites are located on terraces. The lower New Hope drainage represents the highest frequency of Late Woodland components (n=4 or 36.4 percent) followed by the headwater region of the New Hope (n=2 or 18.2 percent) and White Oak Creek (n=2 or 18.2 percent). Single occupations were reported along Beaver Creek, Parkers Creek and the Haw River. The evidence suggests that by Late Woodland times there is an increasing reliance on the main river drainage and the larger tributaries.

Mississippian/Protohistoric

Only one site which produced a small triangular point indicative of these cultural periods was discovered during the present survey. The site is located near the confluence of a small stream and the Haw River. The analysis of prerecorded sites indicates that sites of these periods are frequently found in the upper reaches of the New Hope Valley. The pattern of single occupations in the minor tributaries still persists, possibly a continuation of a settlement pattern established in the Early Woodland period.

Historic European

The Historic European has been divided into two temporal periods - antebellum mixed agriculture plantation farming and postbellum cash crop tenant

farming - to facilitate a discussion of early settlement and subsequent reoccupation of farmsteads in the study area. The late eighteenth and early nineteenth centuries brought with them the first wave of farmers looking to settle in the New Hope River valley. As discussed in Chapter IV, individuals selectively choose homesite locations in areas exhibiting access to established transportation routes (both water and overland routes) and bottomlands suitable for farming. Research has indicated that uplands adjacent to good bottomlands were considered primary locations for two reasons: 1) good bottomland was a valued commodity and people did not wish to "waste" such land for constructing living quarters and outbuildings for equipment storage and 2) upland areas provided protection against floods during periods of high water. Analysis of the 15 antebellum occupations (excluding small artifact scatters, graveyards and tobacco barns) discovered during this survey are consistent with our expectations concerning early historic settlement strategies. Eleven homesites (73 percent) are located in upland areas adjacent to the T₃ terrace sequence (250 foot contour) with eight of the eleven homesites occurring in the survey items (Bells Landing and Division of North Carolina Forestry) identified as high priority areas because of their locations with respect to early roads.

To further investigate the relative location of antebellum homesites to terraces, the average elevation of upland sites was calculated to be 288 feet. However, this average includes three sites located in aggregate 9 (Haw River), a region characterized by steep slopes and constricted floodplain. To better understand the locational pattern within the New Hope River drainage, the Haw River sites were removed from the sample and the average elevation for upland sites was recalculated. This time, the average elevation of antebellum house sites was calculated at 254 feet, an average of only four feet above the T₃ terrace. The relationship of house sites to terraces along the New Hope River drainage also confirms the economizing behavior of early historic settlement strategies. Usually the first knoll tops above the terraces were selected for habitation locations, given that these areas provided easy access to tillable lands and also served as observation points overlooking bottomland property.

Eleven of the fourteen postbellum occupations identified by the present survey represent reoccupations of antebellum habitation sites. This is not unexpected given that the antebellum sites are situated in prime locations with respect to environmental and cultural variables influencing settlement decisions. In fact, within the two survey items identified as high priority areas for early historic occupations, ten of the eleven antebellum sites were reoccupied by postbellum inhabitants. The continual use of these locations over the past 200 years demonstrates the value assigned to this region by local inhabitants. Unfortunately, previous surveys conducted in other regions of the project area did not focus on the identification of late postbellum occupations. These surveys lumped historic sites under the category "colonial," thus providing limited insights into historic settlement strategies.

SUMMARY OF THE PREHISTORIC SITES DATA WITH REGARDS TO THE RESEARCH DESIGN

One of the principal goals of the present survey was the use of the effective-temperature model for the classification of Piedmont culture-temporal periods into foraging or collecting adaptations (See Figure 9). As can be observed in

this illustration, the climatic threshold in which societies would have converted from a collector adaptation to a foraging adaptation occurred late in the Early Archaic period. Therefore, land use patterns associated with Paleo-Indian, Dalton and Early Archaic groups should reflect clumping of sites around critical resource bases. The base camp sites should be confined primarily to the main river channel where resources were most plentiful with the smaller tributaries and upland hinterlands being exploited by means of logistical task groups. These sites would appear as small occupations due to the limited number of individuals and the specific tasks conducted at these locations. The technological organization associated with these sites is described as goal oriented; that is, specific tasks are required of the tools carried to these locations. Therefore tools recovered from locations should exhibit a narrow range of design constraints (see Cable in Claggett and Cable 1982). In contrast to the collector pattern, forager adaptations (proposed for Middle Archaic through Woodland groups) reflect generalist resource procurement strategies in which base camps exhibit a homogeneous distribution across the landscape. Therefore, sites assigned to these cultural periods are expected to occur more frequently in all regions of the reservoir. Also, since this form of adaptation involves frequent moves of base camps, archeological sites should tend to be larger than sites created by collectors. As previously stated, foragers exploit a wide variety of resources, therefore the technological organization is much more relaxed in terms of design constraints placed on tools. This is so due to the multitude of functions required of the tool kit on a day-by-day basis.

The study of forager-collector adaptations is enhanced by data collected over a broad region. Unfortunately, the present survey provides an insufficient sample of the landforms and various drainages which would have played important roles in daily activities of these groups. Therefore, a sample of 185 previously recorded sites representing both cultural-temporal periods and geographical dispersion across the study region were included in the analysis. The results of comparisons between site attributes including cultural components, site size class and topographic situation by geographical region are presented in Tables 13 and 14. It should be noted that no effort was made to isolate single component sites or differentiate site size classes by components in the project area. All of the 284 sites used in the analysis were recorded by pedestrian surveys and represent surface scatters.

The land use patterns observed for Paleo-Indian, Dalton and Early Archaic periods conform well with the expectations generated from a collector adaptation. Of the 52 components identified as belonging to Paleo-Indian, Dalton and Early Archaic occupations, 39 (75 percent) of the components are located along the main channels of the New Hope and Haw Rivers. While Paleo-Indian and Dalton sites are characteristically found (one Dalton site occurs in the Parkers Creek drainage) along the main channels on small sites, the Early Archaic pattern indicates a more diffuse land use pattern with occupations occurring in every region of the study area. Analysis of the site size categories for this period confirms the extensive use of the main river drainages (28 components) and a surprisingly modest use of the minor tributaries. Within these tributaries 38 percent of the sites with Early Archaic occupations are size class 2 or larger, indicating the possibility of base camp locations. The landform orientation of sites along tributaries, however, meets the expectation for occupations occurring along the valley floor where critical resources would have been most plentiful. Sixty-five percent of Early Archaic sites located in the minor tributary valleys occurred on

TABLE 13
Comparison of Cultural Components and Site Size Class Data^a
By Geographical Aggregates
Page 1 of 2

Site Class	Aggregate 1					Aggregate 2					Aggregate 3					Aggregate 4					Aggregate 5					Row Total
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Paleo-Indian	1 (100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Dalton	6 (66.7)	2 (22.2)	1 (11.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
Archaic Early	9 (52.9)	4 (23.5)	3 (17.6)	-	1 (5.9)	3 (30)	6 (60)	-	-	1 (10)	3 (75)	1 (25)	-	-	-	2 (50)	2 (50)	-	-	-	-	-	-	-	-	35
Middle	30 (75)	4 (10)	4 (10)	-	2 (5)	5 (33.3)	7 (46.7)	1 (6.7)	-	1 (6.7)	4 (57.1)	1 (14.3)	1 (14.3)	1 (14.3)	-	1 (50)	1 (50)	-	-	-	-	-	-	-	-	64
Late	29 (74.4)	5 (12.8)	4 (10.3)	-	1 (2.6)	5 (33.3)	6 (40)	1 (6.7)	1 (6.7)	1 (6.7)	5 (62.5)	1 (12.5)	1 (12.5)	1 (12.5)	-	4 (100)	-	-	-	-	-	-	-	-	-	66
Woodland Early	2 (33.3)	2 (33.3)	2 (33.3)	-	-	-	3 (60)	-	1 (20)	-	1 (33.3)	1 (33.3)	1 (33.3)	-	-	-	-	-	-	-	-	-	-	-	-	14
Middle	2 (33.3)	3 (50)	-	-	1 (16.7)	1 (100)	-	-	-	-	1 (100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Late	1 (25)	3 (75)	-	-	-	1 (50)	1 (50)	-	-	-	-	2 (100)	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Proto.	-	-	1 (100)	-	-	1 (33.3)	2 (66.6)	-	-	-	-	1 (100)	-	-	-	1 (100)	-	-	-	-	-	-	-	-	-	6
Column Totals	80	23	15	-	5	16	25	2	2	3	14	7	3	3	0	8	3	0	0	0	0	8	3	0	0	212

n = 11

n = 26

n = 51

n = 123

^a Explanation of Geographical Aggregates presented in Chapter IV (this report).
^b For discussion of aggregate (V53) and size class categories (V103) see Appendix D.
 Values within parentheses represent component percentages by Aggregate.

TABLE 13 (Cont.)
Comparison of Cultural Components and Site Size Class Data^a
By Geographical Aggregates
Page 2 of 2

Size Class	Aggregate 6					Aggregate 7					Aggregate 8					Aggregate 9					Row Totals
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Paleo-Indian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Dalton	-	-	-	-	-	1 (100)	-	-	-	-	-	-	-	-	-	1 (100)	-	-	-	-	2
Archaic Early	1 (100)	-	-	-	-	1 (50)	1 (50)	-	-	-	1 (50)	-	1 (100)	-	-	-	-	-	-	-	6
Middle	1 (100)	-	-	-	-	3 (75)	1 (25)	-	-	-	1 (50)	-	1 (100)	-	-	-	-	-	-	-	8
Late	3 (100)	-	-	-	-	3 (75)	1 (25)	-	-	-	4 (66.7)	1 (16.7)	1 (16.7)	-	-	-	1 (100)	-	-	-	14
Woodland Early	-	-	-	-	-	1 (100)	-	-	-	-	-	-	2 (100)	-	-	-	-	-	-	-	4
Middle	-	-	-	-	-	1 (100)	-	-	-	-	-	-	1 (50)	-	-	-	-	-	-	-	4
Late	-	-	-	-	-	1 (100)	-	-	-	-	-	-	1 (100)	-	-	-	-	-	-	-	2
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Proto.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Column Totals	5	0	0	0	0	11	3	0	0	0	5	2	5	0	0	1	8	1	0	0	41
	n = 5					n = 14					n = 12					n = 10					

^a Explanation of Geographical Aggregates presented in Chapter IV (this report).
* For discussion of aggregate (V5) and size class categories (V103) see Appendix D.
Values within parentheses represent component percentages by Aggregate.

TABLE 14

* Explanation of Geographical Aggregates presented in Chapter IV (this report).
 † For discussion of Aggregate (V5), and land-use categories, (see Appendix D).

TABLE 14 (Cont.)
Comparison of Cultural Components and Landform Data^a
by Geographical Aggregate
Page 2 of 2

	Aggregate 6				Aggregate 7				Aggregate 8				Aggregate 9				Row Total
Landform	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Paleo-Indian	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Archaic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Early	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Late	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Woodland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Early	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Late	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Prehis.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Column Totals	3	2	1	2	9	7	1	2	7	2	1	1	1	6	5	1	52
	n = 6				n = 21				n = 12				n = 13				

^aExplanation of Geographical Aggregates presented in Chapter IV (this report).
* For discussion of Aggregate (VI) and landform categories (VS) see Appendix D.
Values in parentheses represent component percentages for each Aggregate.

bottomland situations. The only reported upland sites for this period occur in the Beaver Creek drainage located in the southern portion of the study region. Given the high density of Early Archaic sites in the southern reach of the New Hope drainage, some of the upland sites may be associated with main river channel occupations instead of the Beaver Creek occupations. If this is so, then all of the Early Archaic occupations located along the minor tributaries of the New Hope and Haw Rivers are situated along the valley floors. The frequency with which Early Archaic sites occur in these smaller drainages suggests that even at this early date, groups were beginning to expand the range of resources exploited, mixing both collector and forager types of procurement strategies.

The transition from collector to forager behavior appears to have been completed by the Middle and continued into Late Archaic times. The frequency and distributional characteristics of sites assigned these time periods reflect both the most intense occupation of groups and the greatest diversity of resources exploited by populations living in the project area. Although the region of highest site density ($n = 111$ Middle and Late Archaic components) occurs in the lower New Hope Valley, 40 components were identified in the minor tributaries. Of these 40 components, 22 (53 percent) are located on sites with sizes larger than 1,364 square meters. The continuation of a foraging strategy during the Late Archaic period may reflect a stability in the mature forest structure, allowing similar economic decisions to be made over a long period of time. Unfortunately, it is not possible to tell exactly when Late Archaic foraging systems began to fail, given the present imprecision of dating terminal Late Archaic occupations. Obviously, the shifts observed in later periods must have resulted from events happening during the terminal Late Archaic.

The increase in the number of large sites located in the minor tributaries combined with the fact that upland sites occur in 4 of the 6 aggregates suggests that a subsistence-settlement strategy involving frequent movement of base camps along the main drainages and minor tributaries was adopted during the Middle and Late Archaic periods. Also during these periods, an increased use of hinterlands is suggested by the increased number of upland sites in many of the lesser drainages.

The interpretation of Woodland period occupations in the study area does not conform to the Effective Temperature Model as well as the Middle and Late Archaic occupations. The model indicates that Woodland period occupations should reflect a forager adaptation given that during these times climatic conditions were such that the optimum strategy for resource procurement would have been a forager system (Woodland periods are above the threshold of an ET value of 14). However, in contrast to the Middle and Late Archaic occupations, Woodland components exhibit characteristics suggesting an overall reduction in the use of the study area. Key variables influencing such an interpretation include a sharp decrease in occupational density, reduction in the number of large sites and a decrease in the number of landforms containing Woodland occupations. Also, the subsistence-settlement patterns suggest the readoption of logistical or collector-like strategies similar to those described for the Early Archaic period. Land use patterns for the Woodland periods are oriented towards the bottomlands of the main channels (83 percent of all Woodland occupations are located in the New Hope and Haw River valleys) with only marginal (17 percent) use of the minor tributaries. While the minor tributaries were being exploited less frequently during

these times, the headwater region (aggregate 2) of the New Hope drainage exhibits the greatest area of use. The components within this region are relatively numerous and large. Also this region contains the only evidence for hinterland or upland use with four Woodland components in various upland situations. The documentation of large Woodland sites occurring in similar zones (Claggett, personal communication) throughout the Piedmont Province lends support to the contention that Woodland groups focused many of their activities in headwater localities. This pattern manifests itself throughout the Woodland periods up to the time of European contact. Early ethnographic accounts by European explorers travelling in the project vicinity discuss the headwater regions as preferred locations for aboriginal settlements (see Cuming 1958; Wood 1674).

Interpretations on the causal mechanisms affecting the observed shift in settlement pattern from Late Archaic to Early Woodland times remains as a major question for future investigations. Perhaps a climatic change from cool moister conditions to a warm, drier environment (see Larson in Claggett and Cable 1982) produced sufficient heterogeneity in the resource structure to cause a shift from a "pure" foraging pattern, often associated with cool moist homogeneous resource structures (see Chapter IV), to a procurement strategy emphasizing more logistical or collector behaviors often found in drier heterogeneous environments. Also the introduction of pottery at this time could have increased the storage capabilities of indigenous groups to the degree that the addition of logistical components to the procurement system would have been advantageous for group survival.

SUMMARY OF THE APPLICATION OF THE HISTORIC SETTLEMENT MODEL TO THE STUDY AREA

As discussed in the Historic Site Research Design (Chapter IV), the present survey of the B. Everett Jordan Dam and Lake provides us with an excellent opportunity to evaluate the degree to which environmental and cultural variables of soil productivity, proximity to seasonally navigable rivers or streams and proximity to principal roads can be correlated with recovery of historic site material culture in the study area.

Soil productivity in the study area was quantified by use of a sampling strategy which examined catchment circles that encompassed 18 percent of the study area. Twenty-four catchment circles, each 1 mile in diameter (see Appendix B), were placed on the Chatham County soils map (Jurney et al. 1937). In keeping with Phifer's (1962:140) research on settlement patterns in Burke County, North Carolina, sample catchment units were placed in bottomlands near major stream confluences, in bottomlands upstream on smaller tributary drainages and in surrounding upland settings.

Analysis of the sample catchment units proceeded by counting the number of acres each soil type contributed to the total catchment area. This figure was then multiplied by a productivity rating which represented the estimated percentage of the soil type used for agricultural purposes (see Jurney et al. 1937). Next, a soil index was calculated by the following formula:

$$\text{Soil Index} = \frac{\text{acreage} \times \text{productivity rating}}{1000}$$

The soil index indicates a particular soil type's contribution to the overall agricultural productivity of the sample catchment unit. A sample unit's agricultural productivity index was then calculated by adding the individual soil indices and dividing by the number of soil types that occurred in the catchment zone. The sample units' productivity index (see Appendix B:Table B-2) provides the basis for comparing the agricultural potential of various regions in the project area. The sample soil productivity ratings thus obtained for the catchment units ranged from a high of 15.4 to a low of 1.2. Though the average soil productivity index for the 24 sample catchment units was 4.5, it should be noted that the higher soil productivity ratings came principally from the White Store sandy loams located on broad upland ridges east of the New Hope River and east of the survey items examined in this study: the average soil productivity index for the sample catchment units east of the New Hope River was 6.8; while the same index for catchment units east of the New Hope River, that portion of the study area in which all survey items are located, was 3.5.

Having established a basis for comparison of soil productivity ratings in the project area, similar ratings were obtained for the specific survey items examined in this study (see Appendix B:Table B-3). Table 15 presents the index of soil productivity for each survey item in which historic sites were located. Table 15 also provides a list of recorded historic sites, their estimated date of initial occupation, and the distance between each site and the nearest navigable stream and the nearest principal road. The seasonally navigable streams from which measurements were made were the Haw River and the New Hope River and Creek; the principal roads from which measurements were taken were those discussed in the Historical Background and shown with bridge crossings on Ramsey's map of 1870 (Exhibit 1).

Tenuous dates of initial historic site occupation and the relatively small acreage surveyed make analysis of our historic settlement model difficult in terms of the evidence presented in Table 15. The correlation between early occupation, high status and high soil productivity does seem somewhat valid. Four of the relatively high status historic sites of early occupation, 31Ch538, 31Ch541, 31Ch565, 31Ch505, are located in the two survey items with the highest soil productivity, though the fifth early occupation high status site, 31Ch486, is located in the survey item with the next to lowest soil productivity index. Conversely, three of the latest occupied and relatively low status sites, 31Ch484, 31Ch490 and 31Ch520, are located in the three survey items with the lowest soil productivity, while the fourth late occupation site, 31Ch543, is located in a survey item of higher soil productivity and displays material culture associations of somewhat higher status. The linkage between earliest recovered evidence of occupation and proximity to navigable water is not validated by our findings, however. Four of the earliest occupied sites, 31Ch486, 31Ch487, 31Ch564, 31Ch505, are closer to transportation by water than by road with an average distance between site and navigable stream of 300 meters, but five of the earliest occupied sites along Parkers Creek, 31Ch526, 31Ch538, 31Ch540, 31Ch541, 31Ch565, are closer to a principal road than to navigable water with an average distance between site and road of 200 meters. In fact, this evidence of initial occupation for the Parkers Creek sites and their

TABLE 15

**SOIL PRODUCTIVITY AND TRANSPORTATION ACCESS
FOR HISTORIC SITES LOCATED IN THE 1982 SURVEY**

<u>Survey Item</u>	<u>Soil Productivity</u>	<u>Acres</u>	<u>Historical Sites</u>	<u>Original Date of Occupation</u>	<u>Distance to Stream in Meters</u>	<u>Distance to Principal Road in Meters</u>
Roberson Creek	1.5	370	31Ch484	1880	490	151
			31Ch486	1820	170	270
			31Ch487	1830	240	290
Rivers Junction	1.3	80	31Ch490	1890	500	570
Bells Landing	1.8	470	31Ch520	1900	1800	130
			31Ch526	1830	1200	30
North Carolina Forestry	2.6	930	31Ch538	1830	1500	30
			31Ch539	1860	1300	270
			31Ch540	1830	1300	300
			31Ch541	1820	1300	340
			31Ch543	1890	1600	100
			31Ch564	1820	270	1300
			31Ch565	1820	1500	340
			31Ch552	1860	470	2200
Morgan Creek	8.6	600	31Ch331	1860	200	3200
			31Ch505	1820	500	4590

orientation to the two principal roads between Pittsboro and Raleigh strongly suggests that those transportation arteries were in place prior to the earliest material culture evidence of original occupation after 1820, a conclusion which is corroborated by research presented in the Historical Background.

Observation of geographic context for historically identified farmsteads, 31Ch505, the Mason Farm, and 31Ch541, believed to be the Ben Horton Farm, suggests more concise criteria for the probable location of early occupation high status farm residences: 1) proximity to high productivity floodplain soils. The 1000 acre Mason Farm has a soil productivity index of 6.4, and the 500 acre Horton Farm has a soil productivity index of 3.9; 2) location on a well drained ridge or knoll 30 to 50 feet in elevation above the floodplain. The Mason residence is 50 feet above Morgan Creek and 50 feet above New Hope Creek and the Horton residence is 30 feet above two branches of Parkers Creek. Thus in this portion of the Piedmont, evidence of early occupation, high status historic sites should be sought on low ridges and terraces in the immediate vicinity of floodplain soils of high productivity, but the evidence of temporal occupation is not likely to be early enough in the cycle of pioneer settlement to be constrained by proximity to a navigable waterway.

CHAPTER VII

SIGNIFICANCE EVALUATION AND RECOMMENDATIONS

One of the basic tasks of the present survey was to evaluate the cultural resources discovered during the survey in terms of explicit significance criteria. While no one formula exists that data can be plugged into and an answer appears, considerable debate has arisen as to the best approach for placing a research value on a particular resource. Some authors believe the best approach is an evaluation of each site in terms of its scientific appeal (Schiffer and Gumerman 1977; Goodyear et al. 1978). This approach is limited in that it has little discriminating power beyond the idiosyncratic preferences of particular researchers.

A more preferable approach to the evaluation of site significance is an objective scale where each resource can be measured and compared irrespective of one's research interest. To be useful, this scale must be sensitive to detailed information about particular resource attributes but still maintain a comparative basis whereby the resource can be placed into a larger regional framework. Glassow (1977) has developed such a scale by suggesting that five properties of archeological resources can be monitored in terms of significance evaluations. These properties are outlined below.

Variety. This property refers to the qualitative variability in archeological resources. This variability can be manifest in the form of a given class of resources, or it can involve the spatial and temporal distributions of the form of a given class of resources.

Quantity. This refers to the frequency or density of each type of resource; that is, the frequency of hearths or projectile points.

Clarity. Clarity refers to the degree of distinctiveness between individual units. Clarity, then judges the degree to which a stratum, feature, or artifact cluster can be differentiated from its surrounding context.

Integrity. This property refers to the degree of preservation of archeological resources. For instance, degrees of integrity can be assigned to levels of bone preservation, pollen content or macro-floral remains. In another instance, integrity measures the degree of completeness of the range of artifacts that comprise a tool kit, or rock hearth.

Environmental Context. This property refers to the environmental setting of a site or other class of archeological resource. The context can refer to a topographic setting, a microenvironmental zone or any number of other environmental divisions.

By observing these properties, information pertaining to each site's content and structure can be ascertained, providing a standardized system of evaluative criteria. Cable and Cantley (n.d.:89) have argued that this approach to

significance evaluation enhances the more scientific oriented approach espoused by Schiffer and Gumerman (1977) by providing:

the kinds of information required to determine the level of detail that problem oriented questions can assume in any one data base. Thus, in conjunction with regional research questions, Glassow's properties present an excellent scheme of criteria for making decisions about which sites can contribute significantly to research and which cannot and what are the appropriate research problems for the type of data present.

Given the vagueness of criterion (d) of the National Register which states that archeological resources are considered significant if they have "yielded, or may be likely to yield, information important to prehistory or history," a systematic evaluative system for the B. Everett Jordan Survey was adopted by which archeological significance was assessed in relation to five archeological properties (Glassow 1977). A determination of each site's significance was made by weighing each of the properties and assessing a particular site's potential for yielding important information in the future.

For purposes of discussion, the archeological sites discovered during the 1982 survey were divided into three categories on the basis of their site elevations. The first category of sites represents cultural resources discovered at or near the 216 foot conservation pool shoreline. A total of 27 sites (29 percent of all newly discovered sites) were included in this category. All of these sites have been subjected to massive erosional disturbances caused by wave action and periodic inundation by the B. Everett Jordan Lake. Other disturbances caused by construction of access roads leading to the lake edge and collector activity along the shorelines have greatly diminished the properties of integrity, clarity, quantity and variety for each of the sites with the possible exception of two: sites 31Ch570 and 31Ch515.

Site 31Ch570 is a large multi-component site located on a terrace remnant near the confluence of the Haw River and Roberson Creek. Although much of the site has been heavily disturbed by road construction and erosion due to periodic flooding by the lake, two areas were identified as retaining shallow subsurface cultural deposits. While it is expected that the archeological properties of clarity and integrity are going to be relatively low, more information may be obtained related to quantity and variety. Since the site has been heavily disturbed in most areas, it is not recommended for inclusion on the National Register. However, the potential recovery of additional information from the two areas containing shallow subsurface deposits is sufficient justification for recommending that an archeologist monitor the site during any construction activities which may adversely impact the area.

Site 31Ch515 is a large multi-component site located on a narrow peninsula of land jutting into the Jordan Lake approximately 200 meters southwest of Windfall Branch. Diagnostic artifacts recovered from this site suggest a Late Archaic through Late Woodland occupation.

Site 31Ch515 has been heavily disturbed by erosion caused by periodic flooding of the lake. An indeterminate portion of the site is permanently submerged under the conservation pool (216 feet MSL). Shovel tests placed across the site indicate that a shallow subsurface cultural deposit still remains in some areas. Given that this is a large multi-component site and this location is heavily eroded, archeological properties of clarity and integrity are expected to be low. However, there exists a possibility that the properties of variety and quantity may be enhanced in those areas containing shallow subsurface deposits. While the site no longer retains those qualities sufficient for inclusion to the National Register of Historic Places, it is recommended that the site be monitored by an archeologist if adversely affected by proposed construction activities.

The second category of sites represents those sites located on lands between the conservation pool (216 feet MSL) and flood pool (240 feet MSL). A total of 16 sites (17 percent of all newly discovered sites) were included in this category. These sites have been subjected to periodic inundation by the lake during times of high water. However, since these sites are not located along the water's edge for any length of time, the degree of erosion affecting each site will vary with the local topographic situation. Road construction and agricultural activities are expected to be the other primary agents of site disturbance in this category.

Two archeological sites located during the present survey retain sufficient archeological properties for further consideration. Site 31Ch533 is a large lithic scatter located in an agricultural field due west of the New Hope River and Windfall Branch confluence. The site extends from the conservation pool shoreline (216 foot contour) inland for approximately 130 meters. The portion of the site farthest from the conservation pool shoreline has been affected least by erosion. In this area, a sandy loam topsoil extends to a depth of 15 centimeters, where the red clay subsoil was encountered. Shovel tests placed in this area produced cultural materials below the surface. Given that this site has been subjected to disturbances by erosion and agricultural activities, it is not recommended for inclusion on the National Register of Historic Places. However, since cultural materials were discovered in subsurface context (15 centimeters of mixed deposit) it is recommended that an archeologist be present to monitor the site if adversely impacted by proposed construction activities.

Site 31Ch566 is a site found eroding out of the old U.S. 64 road cut near Parkers Creek. Shovel test units placed north of and parallel to the road cut indicated the presence of subsurface cultural deposits extending to a depth of 15 to 20 centimeters. The size of the remaining portion of the site unaffected by the road construction is estimated to be less than 600 square meters. The vegetation occurring on the site also indicates that the site at one time was cleared, probably for agricultural purposes.

Due to the postdepositional disturbances which have occurred at this site, the archeological properties of site integrity and clarity have been greatly diminished. Additional information on this site's properties of variety and quantity, however, can be obtained by an archeologist monitoring the site if construction activities adversely impact it. Therefore, site 31Ch566 is not recommended for inclusion on the National Register of Historic Places.

The third category of sites represents those cultural resources discovered above the 240 foot flood pool contour level. A total of 51 sites (54 percent

of all newly discovered sites) were included in this category. The greatest postdepositional modification agents in this category are those related to agricultural activities and road construction projects. With the final completion of the Jordan Dam and the creation of the lake, many of the roads in the area had to be re-routed for access around the lake. Large areas of land were affected by this activity.

Of the 51 cultural resources included in the third site category, only five retain sufficient archeological properties deserving further consideration. Site 31Ch514 represents a historic graveyard which should be avoided by construction activities which will adversely impact the site. If construction is unavoidable, then the human remains will have to be exhumed and taken to another grave site. Also, it is possible that relatives of the deceased still live in the project area. Every attempt should be made to locate these individuals before the process of re-interment begins.

Another three sites (31Ch237, 31Ch521 and 31Ch501) in this category contain similar archeological properties as those discussed for the first two site categories. At each of these sites a thin layer (10 to 15 centimeters) of topsoil containing cultural materials overlaid sterile subsoil. While each of these sites lacks a high degree of site integrity and clarity, additional information concerning each site's properties of variety and quantity can be easily obtained by an archeologist monitoring any proposed construction activities which adversely impact the sites. For these reasons, the three sites are not recommended for inclusion on the National Register of Historic Places.

The final cultural resource to be discussed is site 31Dh351. This site was discovered during systematic shovel testing of a flat wooded ridge nose overlooking the floodplain of Little Creek. The main channel of Little Creek is 450 meters west of the site; however, old abandoned meander channels are located much nearer. It is possible that during the occupation of site 31Dh351 the stream flowed adjacent to the site. The floodplain at this point is extremely wide (600 meters) and supports a forest community of swamp chestnut oak, overcup oak, willow oak, swamp spanish oak, sweetgum, swamp red oak, hickory and elm trees. The forest community on the site itself is primarily oaks and hickories with various scrub species in the understory.

Site 31Dh351 is situated on a narrow ridge with an elevation of 250 feet MSL. This ridge extends westward from the uplands, gradually decreasing in elevation until it drops abruptly (3 to 4 meters) into the Little Creek floodplain. The width of the ridge nose, overlooking the floodplain, is approximately 50 meters. Beginning at the point on the ridge closest to the floodplain, shovel test units were dug at 20 meter intervals along north-south transects over the top of the ridge. In all, a total of 21 shovel test units were excavated with five of these units producing cultural material. In two of the test units closest to the floodplain, two small stemmed Woodland projectile points associated with metavolcanic flakes were recovered at an approximate depth of 50 centimeters. Shovel units located as far as 70 meters away from the floodplain also contained artifacts, including 2 nondiagnostic bifaces and flakes at the 50 centimeter level. Using the data derived from the positive shovel test units, site size is estimated to be approximately 3,500 square meters.

This site is considered significant in terms of all five archeological properties. Clarity is demonstrated by the results of the shovel test units which indicate a relatively deeply buried (50 centimeters below surface) single occupation assigned to the Early Woodland period. Because the soil profiles showed little or no evidence of postdepositional modification, its integrity is intact. Each test unit contained the basic profile of the top 10 centimeters consisting of a dark humic layer, underlain by 60 centimeters of a brownish-yellow sandy loam. The site is significant in terms of quantity because five small shovel test units produced 2 diagnostic projectile points, 2 nondiagnostic bifaces and numerous pieces of metavolcanic debitage. Variety is represented because, although this is a Woodland occupation, no ceramics were discovered. This suggests that activities at this location did not require the use of ceramic containers. And finally, the environmental context is significant because little is known about how this site's habitat was used. Other archeological sites have been documented in similar areas of other drainages; however, these sites usually reflect less integrity and clarity than site 31Ch351. Therefore, it is recommended that site 31Ch351 be included on the National Register of Historic Places.

If preservation in place is not possible, then a multi-stage excavation plan is recommended for data recovery. The first stage of excavation should involve the random placement of 1 x 1 meter excavation units across the site area. Then, using the data recovered from the 1 x 1 meter excavation units, one or more small excavation blocks should be dug in areas of high artifact or feature concentrations. Special efforts should be made for the recovery of ethnobotanical and/or zooarcheological specimens. These data would be particularly informative on Woodland subsistence strategies in the Upper New Hope River Valley.

The preceding discussion of archeological significance has been directed towards the prehistoric sites located during the present survey. However, eight historic farmsteads (sites 31Ch516, 31Ch538, 31Ch539, 31Ch540, 31Ch541, 31Ch543, 31Ch564 and 31Ch565) and one slave cemetery (31Ch542) were located and judged significant on the basis of their archeological properties and their ability to provide information on early historic occupation of the New Hope River Valley (see Chapter IV: Historic Sites Research Design). These eight historic farmsteads and one cemetery are included in what has been labeled the New Hope Rural Historical Archeological District.

The New Hope Rural Historical Archeological District is historically and archeologically significant because it contains material culture remains from early to mid-nineteenth century settlement in a portion of the North Carolina Piedmont which practiced mixed commercial agriculture characterized by relatively intensive use of slave labor to produce corn, hogs and dairy products. Little study has been conducted on the workings of this mixed agricultural economy of one-third slave population. Its operation appears to be in a transition zone between the tobacco and slave plantations to the north and east, the cotton and slave plantations to the east and south and the smaller yeoman farms to the west, and as such its architectural remnants of substantial I-houses, double pens, and possible dogtrots warrant additional recordation as does the probable slave cemetery. The use of comprehensive archeological data recovery techniques such as resistivity equipment used for locating undisturbed subsurface features (i.e., trash pits, covered wells, outbuildings and privies) would provide greater evidence of trade patterns, economic function, and social status for this cluster of relatively prosperous farmsteads. The inclusion of an architectural historian would provide

useful insights into early farmstead construction techniques and later period additions.

The material culture record of the New Hope Rural Historical Archeological District can be supplemented significantly by conduct of a comprehensive land use history for the west bank of the New Hope River upstream from Parkers Creek. By examining Chatham County deed records in Pittsboro the historian can provide a chronological map of property ownership in the proposed historic archeological district. Names obtained from that research will be cross-referenced with available tax rolls, records of marriage and other Chatham County legal transactions. The property owners' names will also be used to review manuscript census records for population and agriculture to gain additional information on when individuals settled in the historic district, where they and their parents came from, and how they farmed the land.

The land use history thus obtained can be integrated with analysis of recovered material culture to reconstruct the patterns of life practiced in this area of mixed agriculture small farm and slave plantations, and the information thus assembled and organized can be used to contrast that occupance with the cotton and tobacco plantations to the east and the south, and to the yeoman farmers of upland Appalachia. In addition, biographical information on owners of the historic sites may provide new insight into the pattern of cultural ties which were established between landowners in the proposed historic district and the adjacent county seat in Pittsboro, as well as more distant regional commercial centers. Finally, synthesis of land use history and material culture analysis may lead to new information dealing with change over time. Many of the sites contain late nineteenth and early twentieth century components, and examination of related documents and archives may yield a highly significant record of the transition from antebellum mixed agriculture with slave labor, to post-bellum tenant farming with greater cash crop exploitation of tobacco and cotton cultivation accompanied by accelerated soil depletion and land abandonment.

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APPENDICES

APPENDIX A

SITE LOCATIONS

(Under separate cover as Volume II)

APPENDIX B

SOIL CATCHMENT DATA AND LOCATIONS

TABLE B-1

SOIL PRODUCTIVITY CATCHMENT UNIT LOCATIONS

Catchment Number	Drainage	Landform*	Catchment Center Location	
			Latitude	Longitude
1	Lower New Hope River	B	35°39'57"N	79°04'05"W
2	Lower New Hope River	B	35°41'09"N	79°03'21"W
3	Lower Beaver Creek	B	35°41'58"N	79°01'55"W
4	Upper Beaver Creek	B	35°41'56"N	79°00'29"W
5	Lower Parkers Creek	B	35°42'55"N	79°02'19"W
6	Unnamed Tributary of Haw River	U	35°43'27"N	79°04'40"W
7	Unnamed Tributary of Beaver Creek	U	35°43'31"N	79°00'05"W
8	Middle Parkers Creek	B	35°44'14"N	79°02'50"W
9	Lower White Oak Creek	B	35°44'44"N	79°01'01"W
10	Upper White Oak Creek	B	35°44'56"N	78°59'26"W
11	Beartree Creek	B	35°45'30"N	79°02'28"W
12	Upper Parkers Creek	U	35°45'16"N	79°04'40"W
13	Middle New Hope River	B	35°46'40"N	79°01'44"W
14	Unnamed Tributary of Whiteoak Creek	U	35°46'28"N	78°59'19"W
15	Beartree Creek/ Bush Creek	B	35°46'54"N	79°04'14"W
16	Lower Bush Creek	B	35°47'51"N	79°01'34"W
17	Unnamed Tributary of New Hope River	U	35°47'26"N	78°58'10"W
18	Upper Bush Creek	U	35°48'16"N	79°03'24"W
19	Lower Morgan Creek	B	35°49'06"N	79°00'00"W
20	Upper Overcup Creek	U	35°49'20"N	79°01'55"W
21	Unnamed Tributary New Hope River	U	35°48'48"N	78°56'59"W
22	Upper New Hope River	B	35°49'46"N	78°58'42"W
23	Upper Morgan Creek	B	35°50'11"N	79°00'29"W
24	Northeast Creek	B	35°49'50"N	78°57'22"W

*Landforms indicate the habitat orientation of the catchment zone.
B = bottomlands; U = uplands

TABLE B-2

SOIL CATCHMENT SAMPLE UNITS AND THEIR RELATIVE
PRODUCTIVITY RATINGS IN THE PROJECT AREA

Sample Unit	Soil Type	Acreage	Productivity Rating	Productivity Index	
1	Co	100	70	7.00	
	Gs	190	5	.95	
	Hs	40	30	1.20	$\Sigma = 14.45$
	Go	10	20	.20	
	Cl	40	70	2.80	$I = 1.60$
	Gg	10	30	.30	
	Il	30	20	.60	
	Gc	40	35	1.40	
	Rs	10	0	0	
2	Hs	170	30	5.10	
	Go	70	20	1.40	
	Rs	60	0	0	$\Sigma = 14.55$
	Gc	50	35	1.75	
	Wa	30	60	1.80	$I = 1.30$
	Am	20	80	1.60	
	Ws	20	35	.70	
	Cl	20	70	1.40	
	Gg	10	30	.30	
	A	10	0	0	
	Wa	10	50	.50	
	(gravelly)				
3	We	190	5	.95	
	Ws	110	35	3.85	$\Sigma = 10.15$
	Gg	60	30	1.80	
	Rk	50	2	.10	$I = 1.30$
	Wa	30	60	1.80	
	Wf	10	90	.90	
	Cl	10	70	.70	
	Gs	10	5	.05	
4	We	190	5	.95	
	Ws	170	35	5.95	$\Sigma = 15.80$
	Wl	90	80	7.20	
	Gf	20	85	1.70	$I = 4.00$
5	We	310	5	1.55	
	Ws	80	35	2.80	$\Sigma = 6.90$
	Rk	50	2	.10	
	Am	10	80	.80	$I = 1.20$
	Gf	10	85	.85	
	Cl	10	70	.70	

TABLE B-2 (Cont.)

SOIL CATCHMENT SAMPLE UNITS AND THEIR RELATIVE
PRODUCTIVITY RATINGS IN THE PROJECT AREA

Sample Unit	Soil Type	Acreage	Productivity Rating	Productivity Index	
6	Gc	260	35	9.10	$\Sigma = 12.92$
	Go	50	20	1.00	
	Gg	50	30	1.50	$I = 1.80$
	Gs	40	5	.20	
	Ol	40	10	.40	
	(gravelly) Gl	20	35	.70	
	Hs (Stony)	10	2	.02	
7	Wl	240	80	19.20	$\Sigma = 27.25$
	Ws	230	35	8.05	$I = 13.60$
8	Ws	290	35	10.15	$\Sigma = 18.50$
	Cl	80	70	5.60	
	Go	60	20	1.20	$I = 2.60$
	Gg	10	30	.30	
	Dl	10	40	.40	
	Gs	10	5	.05	
	Am	10	80	.80	
9	Wl	150	80	12.00	$\Sigma = 17.60$
	We	110	5	.55	
	Rk	100	2	.20	$I = 3.50$
	Ws	90	35	3.15	
	Gf	20	85	1.70	
10	Wl	130	80	10.40	$\Sigma = 22.50$
	We	110	5	.55	
	Ws	100	35	3.50	$I = 3.20$
	Am	90	80	7.20	
	A	20	0	0	
	Gf	10	85	.85	
	Rk	10	2	.02	
11	Ws	340	35	11.90	$\Sigma = 18.45$
	Am	60	80	4.80	
	We	30	5	.15	$I = 3.60$
	A	20	0	0	
	Wl	20	80	1.60	

TABLE B-2 (Cont.)

SOIL CATCHMENT SAMPLE UNITS AND THEIR RELATIVE
PRODUCTIVITY RATINGS IN THE PROJECT AREA

Sample Unit	Soil Type	Acreage	Productivity Rating	Productivity Index	
12	Go	240	20	4.80	$\Sigma = 11.63$
	Gs	80	5	.40	
	Gl	60	35	2.10	I = 1.70
	Cl	40	70	2.80	
	Gc	30	35	1.05	
	Ol	10	8	.08	
	Dl	10	40	.40	
13	We	150	5	.75	$\Sigma = 20.78$
	Am	120	80	9.60	
	Ws	60	35	2.10	I = 3.50
	Wl	50	80	4.00	
	Gf	50	85	4.25	
	Rk	40	2	.08	
14	Wl	320	80	25.60	$\Sigma = 30.85$
	Ws	150	35	5.25	I = 15.40
15	Dl	250	40	10.00	$\Sigma = 12.50$
	Dl	120	0	0	
	(hilly phase)				I = 3.10
	Go	90	20	1.80	
	Gc	20	35	.70	
16	Ws	310	35	10.85	$\Sigma = 15.37$
	We	70	5	.35	
	Am	50	80	4.00	I = 3.10
	Gs	30	5	.15	
	Rk	10	2	.02	
17	Ws	420	35	14.70	$\Sigma = 18.75$
	Wl	40	80	3.20	I = 6.30
	Gf	10	85	.85	
18	Ws	190	35	6.65	$\Sigma = 9.98$
	Go	160	20	3.20	
	A	60	0	0	I = 1.70
	Dl	30	0	0	
	(hilly phase)				
	Ag	10	60	.06	
	Cl	10	70	.07	

TABLE B-2 (Cont.)

SOIL CATCHMENT SAMPLE UNITS AND THEIR RELATIVE
PRODUCTIVITY RATINGS IN THE PROJECT AREA

<u>Sample Unit</u>	<u>Soil Type</u>	<u>Acreage</u>	<u>Productivity Rating</u>	<u>Productivity Index</u>	
19	We	250	5	1.25	
	Ws	140	35	4.90	$\Sigma = 12.60$
	Am	60	80	4.80	
	Gf	10	85	.85	$I = 2.50$
	Wl	10	80	.80	
20	Ws	270	35	9.45	$\Sigma = 25.46$
	Wl	200	80	16.00	$I = 12.70$
21	Ws	240	35	8.40	$\Sigma = 23.05$
	Wl	180	80	14.40	$I = 7.70$
	We	50	5	.25	
22	We	260	5	1.30	
	Am	110	80	8.80	$\Sigma = 13.95$
	Ws	90	35	3.15	$I = 3.50$
	Cl	10	70	.70	
23	Cl	130	70	9.10	
	Wl	100	80	8.00	$\Sigma = 26.80$
	Ws	80	35	2.80	
	We	80	5	.40	$I = 4.50$
	Am	60	80	4.80	
	Gf	20	85	1.70	
24	Ws	190	35	6.65	
	Am	110	80	8.80	$\Sigma = 20.70$
	We	110	5	.55	
	Wl	50	80	4.00	$I = 4.10$
	Cl	10	70	.70	

TABLE B-3
SOIL ACREAGES AND PRODUCTIVITY RATINGS
FOR THE SURVEY ITEMS

<u>Survey Item</u>	<u>Soil Type</u>	<u>Acreage</u>	<u>Productivity Rating</u>	<u>Productivity Index</u>	
Roberson Creek	Gc	120	35	4.20	
	Go	100	20	2.00	
	Gs	90	5	.45	$\Sigma = 9.15$
	Cl	30	70	2.10	
	Rs	20	0	0	$I = 1.50$
	Dl	10	40	.40	
Rivers Junction	Ws	70	35	2.45	$\Sigma = 2.65$
	Go	10	20	.20	$I = 1.50$
Bells Landing	Go	200	20	4.00	
	Gc	90	35	3.15	
	Ws	60	35	2.10	$\Sigma = 12.80$
	Gs	50	5	.25	
	Ol	30	8	.24	$I = 1.80$
	Gf	30	85	2.55	
	Wa	10	60	.60	
North Carolina Forestry Lower Segment	Go	130	20	2.60	
	Ol	90	8	.72	
	Gg	90	30	2.70	$\Sigma = 10.97$
	Ws	50	35	1.75	
	Am	30	80	2.40	$I = 1.80$
	Dl	20	40	.80	
North Carolina Forestry Upper Segment	Ws	470	35	16.45	
	Gs	20	5	.10	$\Sigma = 17.37$
	Am	10	80	.80	
	A	10	0	0	$I = 3.50$
	Rk	10	2	.02	
Morgan Creek	Ws	500	35	17.50	$\Sigma = 25.80$
	Gf	60	85	5.10	
	Am	40	80	3.20	$I = 4.80$

APPENDIX C

SCOPE OF WORK

SCOPE OF WORK
FOR
ARCHAEOLOGICAL INVESTIGATIONS
OF THE
AREAS OF PROPOSED RECREATIONAL DEVELOPMENT,
AND
PROPOSED WILDLIFE SUBIMPOUNDMENTS
AT
B. EVERETT JORDAN DAM AND LAKE, NORTH CAROLINA

SCOPE OF WORK
FOR
ARCHEOLOGICAL INVESTIGATIONS
OF THE
AREAS OF PROPOSED RECREATIONAL DEVELOPMENT,
AND
PROPOSED WILDLIFE SUBIMPOUNDMENTS
AT
B. EVERETT JORDAN DAM AND LAKE, NORTH CAROLINA

1. Introduction. The purpose of this contract is for the completion of archeological surveys of the upland areas of the B. Everett Jordan Dam and Lake project, which are being considered for initial recreation development, and as locations of wildlife subimpoundments. The area requiring survey under this Scope of Work is approximately 4,300 acres. In addition, mapping of previously known and newly discovered sites on 1:12,000 project base maps is required. This work is being undertaken pursuant to the National Historic Preservation Act, as amended (PL 89-665), and the Archeological Data Recovery Act (PL 93-291). Each of these work items is more fully described in the following paragraphs.

2. Description of the B. Everett Jordan Dam and Lake Project. The B. Everett Jordan damsite is located on the Haw River about 0.3 mile below the mouth of the New Hope River, approximately 2.5 miles north of Moncure, North Carolina and approximately 25 miles southwest of Raleigh, North Carolina. The lake will be located in the upper northwest portion of the Cape Fear River Basin and will cover parts of Chatham, Durham, Orange, and Wake Counties, North Carolina.

3. Items to be Furnished to the Contractor by the Contracting Officer.

NOTE: The proposed plans for the recreation areas (item d) and the fish and wildlife subimpoundments (item e) to be provided to the Contractor under terms of this contract are "Preliminary" and furnished for "Official Use Only" of the Contractor in fulfilling the terms of the contract. Under no circumstances shall these plans be reproduced or released to anyone without prior written approval of the Contracting Officer or the Contracting Officer's Representative (COR). Upon completion of this contract, the Contractor shall return these plans to the Wilmington District as property of the U.S. Government.

a. Guidelines for level of documentation necessary to make determinations of eligibility for inclusion on the National Register of Historic Places.

b. Project maps at 1:12,000 scale (paper).

c. Project maps at 1:12,000 scale showing archeological site locations (chronoflex)

d. Copies of the preliminary plans for the proposed recreation areas.

e. Copies of the preliminary plans for the proposed fish and wildlife subimpoundments.

f. A copy of the Commonwealth Associates report, Haw River Sites: Investigation at Two Stratified Sites in the N.C. Piedmont, 1980.

4. Consultation. Prior to initiating fieldwork, the Contractor will become thoroughly familiar with the available documentation and will initiate a process of comprehensive consultation with staff archeologists and historians at the N.C. Division of Archives and History and with selected authors of the reports listed in par. 5, Literature Review, below. The authors consulted will include William Autry, Trawick Ward, and Joffre Coe. Insofar as practical, the Contractor should consider initiating some consultation during the preparation of research proposals.

5. Literature Review. A large body of literature is currently available addressing various aspects of history and prehistory in the vicinity of the B. Everett Jordan Dam and Lake project. The listing below is minimal and is intended to serve as a guide to specific work items and as an introduction to fuller bibliographies. The Contractor and his field personnel shall become thoroughly familiar with the available literature in order to make informed field judgments on the nature of encountered archeological features. A review of the literature cited below is not sufficient to meet this requirement. Prior to beginning field survey and testing, the Contractor will have completed thorough document research, will have conducted interviews of residents and local historians, and will have exploited resources available through North Carolina Department of Archives and History, the Southern Historical Collection and the Research Laboratories of Anthropology, both at the University of North Carolina. The literature list below is available for review at the following locations by giving at least one day notice:

U.S. Army Engineer District, Wilmington
First Union National Bank Building
201 North Front Street
Room 602, ATTN: Richard Lewis A/C (919) 343-4749
Wilmington, NC 28401

N.C. Division of Archives and History (Archeology Branch)
109 East Jones Street
Raleigh, NC 27611
A/C (919) 733-7342

Adams, William Hampton, Robin L. Johnson, and David Ferguson Barton
1979 Archaeological Investigations of Ebenezer Log Church and Vicinity.
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- 1970 Archaeological Resources of the New Hope reservoir area [Chatham and Wake counties], North Carolina. M.A. thesis, Department of Anthropology, U.N.C.-Chapel Hill.

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- 1969 A Further Appraisal of the Archaeological Resources of the New Hope Reservoir [Chatham and Wake Counties], North Carolina. Ms. on file, Research Laboratories of Anthropology, U.N.C.-Chapel Hill.

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- 1965 An Archaeological Survey of the New Hope Valley [Chatham, Durham, and Orange counties]. M.A. thesis, Department of Sociology and Anthropology, U.N.C.-Chapel Hill.

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6. Description of the Study Areas (Tasks of the Study). The locations of these areas are shown on a 1"=1000' scale map entitled 1981 GENERAL PLAN FOR ARCHEOLOGICAL INVESTIGATION, dated 20 Sep 81, incorporated herein by reference.

a. Areas of Proposed Recreation Development.

(1) North Carolina Division of Forestry, 898 Acres. This site is located off U.S. Highway 64 with access from State Road 1715 on the western side of the lake. High intensity survey is required on approximately 90 acres scheduled for initial development. Moderate intensity survey is sufficient for the remaining acreage.

(2) Bell's Landing and Bride Trails, 475 Acres. This site is located on the western shore of the lake one mile south of U.S. Highway 64 via State Road 1941. High intensity survey is required on approximately 10 acres scheduled for initial development. Moderate intensity survey is sufficient for the remaining acreage.

(3) Rivers Junction, 80 Acres. This site is located on the western shore of the lake 3 miles south of US Highway 64 via State Roads 1700 and 1941. High intensity survey is required on approximately 4 acres scheduled for initial development. Moderate intensity survey is sufficient for the remaining acreage.

(4) Robeson Creek, 370 Acres. This site is located on the western shore of the lake 2 miles south of U.S. Highway 64 via State Road 1939. High intensity survey is required on approximately 40 acres scheduled for initial development. Moderate intensity survey is sufficient for the remaining acreage.

(5) N.C. Division of Wildlife Headquarters, 55 Acres. This site is located on the western shore of the lake along State Road 1715. High intensity survey is required on approximately 10 acres scheduled for initial development. Moderate intensity survey is sufficient for the remaining acreage.

(6) Morgan Creek Recreation Area, 600 Acres. This site is located at the northern end of the lake near Durham, Chapel Hill, and the Research Triangle in Chatham County. High Intensity survey is required on approximately 125 acres proposed for initial development. Moderate intensity survey is sufficient for the remaining acreage.

b. Wildlife Subimpoundments.

(1) Subimpoundment 1, located on Little Creek near Chapel Hill, will be formed by placement of a water control structure just north of N.C. 54. The maximum pool elevation will be 238 feet, and the maximum surface area will be approximately 127 acres. An additional 4.7 acres will be required for the damsite access roads and parking areas. High intensity survey is required on the entire 131.7 acres.

(a) Bottom land forest occupies almost the entire subimpoundment although several small fields, a patch of hardwood scrub, and a patch of mixed scrub do occur within the subimpoundment area. The upland areas adjacent to this subimpoundment consist primarily of pine forest and mixed scrub communities.

(b) The canopy vegetation within this subimpoundment consists predominantly of red maple (Acer rubrum), sweetgum, and elms (Ulmus spp.) with relatively few oaks or ashes. Hornbeam occurs both as a canopy and subcanopy component. During field investigation in March 1976, this area contained many pockets of standing water.

(2) Subimpoundment 2, also located on Little Creek, will be formed by construction of a water control structure just north of the causeway of S.R. 1110. The maximum pool elevation will be 230 feet, and the maximum surface area will be approximately 196 acres. An additional 2.8 acres will be required for the damsite, access roads, and parking areas. From the dam, the impoundment at maximum level would extend upstream for a distance of approximately 1 mile. High intensity survey is required on the entire 198.8 acres.

This area was once predominantly bottom land forest but was timbered in the not-too-distant past. Canopy dominants are red maple, sweetgum, and river birch (Betula nigra) with some loblolly pines (Pinus taeda), ashes and oaks. Hornbeam occurs both in the canopy and subcanopy. Standing water occurs in much of the area. The adjacent areas consist primarily of pine forest, pine scrub, mixed shrub, and some mixed mesic forest.

(3) Subimpoundment 3, will be formed by placement of a water control structure across the New Hope River just north of N.C. 54 causeway. The maximum pool elevation will be 238 feet, and the maximum surface area approximately 341 acres. An additional 8 acres will be required for the damsite, access roads, and parking areas. High intensity survey is required on the entire 349 acres.

(a) Bottom land forest vegetates almost the entire subimpoundment area. A small patch of mixed scrub community and an aquatic depression vegetated mainly by button brush and swamp rose (Rosa palustris) occur along NC 54 on the east side of the proposed subimpoundment. The communities surrounding the subimpoundment consist of mixed scrub, pine scrub, pine forest, mesic hardwood forest, and open fields.

(b) The lower subimpoundment area adjacent to N.C. 54 contains a high proportion of mature oaks such as overcup oak (Quercus lyrata), willow oak (Quercus phellos), swamp chestnut oak (Quercus michauxii), swamp Spanish oak (Quercus falcata var. pagodaefolia), and some water oak (Quercus nigra). Other canopy constituents include ashes, sweetgum, black gum (Nyssa sylvatica), shagbark hickory (Carya ovata), and others. In the upper portion of the impoundment, the species composition tends to more alluvial types such as ashes, river birch, and scattered loblolly pines, as well as some of the previously mentioned species.

(4) Subimpoundment 4, will be formed by a water control structure just north of the S.R. 1107 causeway crossing of the New Hope River bottom lands. The maximum pool elevation will be 229 feet and will flood approximately 421

acres. An additional 5.6 acres will be required for the damsite, access roads, and parking areas. The flood pool at maximum level would extend approximately 1.5 miles upstream from the dam. High intensity survey is required on the entire 426.6 acres.

(a) The subimpoundment area consists primarily of bottom land forest, but the extreme lower portion near S.R. 1107 has been recently cut over and consists of hardwood scrub and mixed scrub communities. The surrounding areas adjacent to the subimpoundment consists mainly of old fields, pine forest, pine scrub, mixed scrub, and mixed mesic forest.

(b) The species composition of the bottom land forest is much the same as in Subimpoundment 3, although the forest is not as mature and contains more sweetgum and red maple. The scrub communities in the lower portion of the impoundment contain many of the same species but lack the distinct canopy layer due to recent timbering.

(5) Subimpoundment 5, will be formed by a water control structure on Northeast Creek just east of the causeway of S.R. 1731. The maximum pool elevation of this subimpoundment will be 230 feet, and the maximum surface area will be approximately 118 acres. An additional 5.5 acres will be required for the damsite, access roads, and parking areas. High intensity survey is required on the entire 123.5 acres.

(a) The communities within the subimpoundment consist of bottom land forest, mesic hardwood forest, hardwood scrub, and mixed scrub. The communities surrounding the subimpoundment consist primarily of mixed scrub, and hardwood scrub and small patches of open fields, pine scrub, and pine forest.

(b) The subimpoundment area was once mostly bottom land forest, but much of the area has been recently cut over. Some bare ground occurs in the scrub areas. In the remaining swamp forest, various oaks (mentioned for Subimpoundment 3 above) occur, especially the willow oak, as well as sweetgum, red maple, and various less common species.

(c) Two small package plants which serve nearby subdivisions and a Durham County sewage treatment plant operated by the City of Durham and serving Research Triangle Park discharge effluent into Northeast Creek above the proposed subimpoundment.

(6) Subimpoundment 6, will be formed by a water control structure on Beaver Creek just east of the causeway of S.R. 1141. The maximum pool elevation of the subimpoundment will be 231 feet flooding a maximum surface area of approximately 103 acres. An additional 6.1 acres will be required for the damsite, access roads, and parking areas. High intensity survey is required on the entire 109.1 acres.

(a) The subimpoundment area consists mainly of bottom land forest with some hardwood scrub and open field areas. Surrounding communities are primarily mixed scrub and open fields.

(b) This subimpoundment probably contains the least-developed timber of the subimpoundments, and much of the area has been recently timbered. Red maples, tulip poplars (Liriodendron tulipifera), river birch, and some oaks (primarily willow oak and swamp chestnut oak) are the dominant species.

(7) An additional subimpoundment site has been considered because of the routing of Interstate 40 through the project. This impoundment (No. 7) will be situated on the New Hope River between sites 3 and 4 just above the proposed location line for I-40. The North Carolina Department of Transportation will be responsible for design and construction, with approval required from the Corps and North Carolina Wildlife Commission for this impoundment. The maximum pool elevation will be 234 feet and the maximum surface area approximately 429 acres. An additional 8 acres will be required for the damsite, access roads, and parking areas. High intensity survey is required on the entire 437 acres.

7. Services to be Provided by the Contractor.

a. Field Survey. The survey of the areas of proposed recreation development, and proposed wildlife subimpoundments to be conducted under this Scope of Work will include surface collection and subsurface testing for both historic and prehistoric resources. A detailed survey plan with a comprehensive field work and analysis strategy based on various environmental factors and existing archeological knowledge of the project area will be submitted as part of the proposal. The Principal Investigator (P.I.) shall make clear the criteria to be used in selecting areas for various levels of survey and testing effort. Survey will include surface collection, subsurface testing along equal interval transects, and deep testing in areas where deep deposits are encountered. The actual placement of transects shall be determined by the P.I. but should contain at least one subsurface sampling point per 2,500 square meters in areas designated as high intensity survey, one subsurface sampling point per 4,125 square meters in areas designated as moderate intensity survey and one subsurface sampling point per 10,000 square meters in areas designated as low intensity survey. In areas where the intensity of survey is specified in this Scope of Work the level of survey required is meant only as an upper limit for the survey requirements based on the proposed intensity of land use of the area. The P.I. still has the option to propose lower intensity survey should field conditions warrant such a decision. For instance, if 400 acres is recommended for moderate level survey in this Scope of Work and the P.I. determines only 100 acres require survey of this intensity, it is acceptable under terms of this Scope of Work to perform low intensity survey on the remaining 300 acres. It would not be acceptable to perform high intensity survey on any of the areas discussed in this example. Changes in research strategy and level of testing after contract award will require approval by the COR. The test units to be used for subsurface testing will be either a .3 - .5 meter shovel test, a 1 x 1 meter test pit, or a deep-test trench cut. The P.I. shall use the most appropriate, least-costly option available. For instance, in areas of shallow deposition, shovel cuts may be appropriate as a means of determining presence/absence of cultural horizons. In other areas more complex, stratigraphic conditions may necessitate deep testing before appropriate sampling measures can be determined. When a site is encountered, the following

information will be sought: cultural affiliation, stratigraphic condition, state of preservation, areal extent, elevation, UTM coordinates, and condition of features. The P.I. will determine whether or not discovered sites are duplicated on the North Carolina State file and will prepare North Carolina site forms for all newly discovered sites. Upon completion of the investigations, all areas surveyed and tested for cultural resources will be restored, insofar as possible, to their preinvestigation appearance. All cultural resource investigation activities will be coordinated with Corps of Engineers' Project Managers, particularly as they relate to safety, access, excavation, or other disturbance of areas.

b. Evaluation of Significance and National Register Eligibility. The cultural resources to be located and evaluated may include both historic and prehistoric properties. All sites, buildings, structures, and objects which are significant in terms of National, State or local history or prehistory, and for which there is either subsurface evidence or above ground level components will be considered. Resource evaluation should be completed with strict adherence to the criteria presented in 36 CFR Part 60, National Register of Historic Places, nominations by State and Federal agencies, and 36 CFR Part 800, Advisory Council on Historic Preservation, Protection of Historic and Cultural Properties. It will not be considered adequate to evaluate a resource on the basis of its inferred potential and to call for future testing. The potential must be demonstrated, and evaluation of every resource will be fully accomplished under this contract. For all sites that the Contractor and COR consider eligible for nomination to the National Register of Historic Places, the Contractor will prepare a fully documented request for determination of eligibility in accordance with the guidelines referenced above. The completed requests will be submitted (six copies of each) with the project draft report unless otherwise requested in writing by the COR.

c. Project Impact. Besides evaluating individual resources in terms of National Register criteria (36 CFR Part 60.6), each resource will be analyzed with respect to the impact that operation of the project will have upon it (36 CFR Part 800). For instance, it should be clear if operation of the project will ultimately destroy the resource, have only a partial effect on the resource, or have minimal or no effect. Any other pertinent information having to do with this subject should be included in the evaluation. Particular attention should be given to evaluating the impact of pool level fluctuations on sites which will be occasionally inundated.

d. Mitigation and Data Recovery Recommendations. Resources will also be evaluated in terms of mitigation recommendations. The Contractor will indicate whether or not further work should be undertaken with respect to a particular threatened resource, and an estimate will be made as to how much time and what type (preservation, avoidance or data recovery) of mitigation is required. Where no further work is recommended, that should be stated, along with the reasons for arriving at that conclusion. Similarly, where data recovery is recommended, it will not be adequate to write simply that mitigation is necessary. Rather, these recommendations should be supported with statements as to what information would be expected to result from data recovery and why this

information would be significant in terms of expanding the knowledge of the area's history or prehistory. In other words, mitigation recommendations for both data recovery and preservation of archeological sites should be justified, and these justifications should be applied to both positive and negative evaluations. The proposal for a program of mitigation should include preliminary man-hour requirements and should be as specific as possible.

8. Mapping the Previously Recorded and Newly Discovered Sites on 1:12,000 Project Maps. The Contractor is required to accurately map the location of all sites which are located within the B. Everett Jordan project area on 1:12,000 scale reproducible project maps which show locations of many known sites and will be provided by the Contracting Officer. All sites discovered as a result of this survey and all previously recorded sites which are found as a result of the background research and are not already shown on the maps provided will be shown on these maps. At a minimum the sites recorded and on file at the N.C. Division of Archives and History and the Research Laboratory of Anthropology at UNC-Chapel Hill will be shown on these maps. These reproducible maps will be returned to the Contracting Officer upon completion of the contract. A reduced set of copies (8-1/2 by 11 inches) will be provided as an appendix to each copy of the final report.

9. Items to be Provided to the Contracting Officer by the Contractor.

a. Weekly Progress Reports. The Contractor will be required to submit verbal weekly progress reports by the close of business on Monday of each week. The progress report will normally detail all field activities of key personnel and actions taken to accomplish each designated task during the previous week. Methodological problems, results of test excavations, and requests for conferences will also be discussed.

b. Monthly Progress Reports. Monthly progress reports shall be submitted to the COR by the seventh day of each month during the entire period the contract is in force. All or any part of any partial payment requested may be withheld if monthly progress reports are not submitted on time or in a satisfactory manner. These reports shall contain an accurate, up-to-date account of all laboratory and field work procedures, and results, and will also specify the percent of completion of each of the basic tasks outlined above. Standard forms for submission of monthly reports will be furnished by the Corps of Engineers (see attachment 1). Monthly progress reports will also serve as interim cultural resource evaluation reports. Each monthly report will include an evaluation of the archeological investigation. If, in the opinion of the P.I., it appears that more intensive survey and/or mitigation will be required in the area under study, this need will be documented and justified as early as possible in a monthly report.

c. The Final Report. The final report will include a description of procedures used to collect and evaluate the information presented. This description will be in sufficient depth to allow for adequate review and critique of the investigation and assessments. In addition, the report will include the P.I.'s professional assessment of the following:

(1) Kinds of cultural resources present, or inferred to be present, and an estimate of their spatial distribution;

(2) Significance of identified cultural resources and a professional opinion of their eligibility for the National Register;

(3) Effects of loss of all, or parts, of the resources upon future investigations or appreciation of cultural values; and

(4) Recommendations for mitigation of unavoidable impacts on significant cultural resources.

The location of all shovel tests and approximate site boundaries will be shown with reasonable accuracy on project maps to be supplied by the Corps of Engineers. In addition, all sites and buildings of archeological and/or historic significance will be accurately recorded by UTM coordinates on 7.5 minute U.S.G.S. quad sheets (Contractor furnished).

d. N.C. State Site Forms. All sites will be recorded on current, computer adaptable N.C. site forms (Contractor provided). Instructions by the N.C. Division of Archives and History will be followed in filling out N.C. site forms. All forms must be completed and returned to the Corps of Engineers within 30 days after completion of the field work. This will necessitate the ongoing analysis of resources while field work is in progress.

e. Photographs. The project draft and final report will contain professional quality photographs of profiles, features, and artifacts. Any features, etc., cited as evidence of the need for mitigation or further investigation will be photographically documented.

f. Illustrations. The draft and final reports will contain measured drawings, not to exceed 11 by 17 inches in size, of profiles, features, and being presented as evidence of the need for mitigation or further investigation. In addition, an overall site plan not to exceed 11 by 17 inches in size, showing the relationships of any features to one another and to standing architecture will be included in the reports.

10. Contractor Obligations for Project Implementation.

a. The Contractor will assume all responsibility for and take all precautions to prevent damage to the property entered.

b. When cultural resources studies are possibly related to a specific group of people whose descendants are still living in the general area, they should be informed of the studies and consulted, especially where interpretive developments are being considered.

c. Human skeletal remains recovered by this program will not be placed on public display. The COR will be immediately contacted should human skeletal material be encountered. All work will be suspended in the area of the

discovery until the N.C. Division of Archives and History has been notified and the Contractor is so informed by the COR.

d. The principal Investigator will be responsible for the validity of the material presented in the report of investigations.

11. Conferences. Conferences will be held on three occasions during the period of contract services. Two of these will be in conjunction with field inspections to be made by the District archeologist(s). The initial conference will allow the Contractor and District archeologist(s) to coordinate plans for the field operation. The remaining field conference will address the Contractor's progress to date and permit any necessary discussion of revisions in the schedule and/or methodology. The third conference will be held after review of the draft report but prior to the Contractor initiating work on the final report. The purpose of this conference will be to discuss comment on the draft report and to assure understanding of required report changes. This conference will be held in the Wilmington District office. The date and place of conferences may be modified by written agreement between the Contractor and the District archeologist(s).

12. Report Requirements.

a. Report Format and Content. Final drafts of reports of investigations shall reflect and report the analysis outlined in this Scope of Work. They shall be suitable for publication and be prepared in a format reflecting contemporary organizational and illustrative standards of the current professional archeological, architectural, and historical journals. The report will be prepared on 8-1/2 by 11-inch paper and typed, single-spaced. All pages must be numbered. Photographs, plans, maps, drawings, and text must be clean and clear. Final reports will be bound in perfect binding on the left-hand edge. In addition, all reports must contain the following:

(1) High quality photographs shall be provided which show details of features, profiles, artifacts, or other evidence of human occupation for which mitigation is recommended.

(2) If a report has been authored by someone other than the contract P.I., the cover and title page of the publishable report must bear the inscription, Prepared Under the Supervision of (Name), Principal Investigator. The P.I. is required to sign the original copy of the report.

(3) If a report has been authored by someone other than the contract P.I., the P.I. must at least prepare a foreword describing the overall research context of the report, the significance of the work, and any other background circumstances relating to the manner in which the work was undertaken.

(4) The title page of the report must bear an appropriate inscription indicating the source of funds used to conduct the reported work including the contract number and the date of the report.

(14) The final report may be submitted by the Corps of Engineers to the N.C. Division of Archives and History for publication in the N.C. Archaeological Council Publications in Archaeology series.

(15) The Contractor shall complete a DD Form 1473 (Government furnished) and submit three copies with the final report.

b. Drawings. The drawings shall conform to the specifications set forth in ER 1110-2-1002 dated 17 March 1966 entitled "maps and drawings" and the following criteria:

(1) All drafting shall be accomplished in ink on 28- by 40-inch size stable-base drafting film. Drafting ink shall be compatible with stable-base film.

(2) Either mechanical or freehand lettering may be used but shall be in accordance with good drafting practice. In no case shall lettering height be less than 1/8-inch.

(3) Pencil shading on finished drawings will not be accepted. Shading will be accomplished with hatching or preprinted "stick-on" screens. Lettering shall not be obscured with hatching or screening. Hatching on the reverse side of the drawing is preferred.

13. Personnel/Agency Standards. Agencies, institutions, corporations, associations, or individuals will be considered qualified when they meet the minimum criteria given below. As part of the supplemental documentation, a contract proposal must include vitae for the P.I. and main supervisory personnel in support of their academic and experimental qualifications for the research. In the event that support personnel have not been identified at the time of contract proposal, vitae on supervisory positions may be omitted until such time as they are identified with the provision that those to be selected meet the minimum professional standards stated below and that their retention is subject to approval by the COR.

a. Archeological Project Directors or Principal Investigators (P.I.). Persons in charge of an archeological project or research investigation contract, in addition to meeting the appropriate standards for archeologists, must have the doctorate or an equivalent level of professional experience as evidenced by a publication record that demonstrates experience in field project formulation, execution, and technical monograph reporting. Suitable professional references may also be made available to obtain estimates regarding the adequacy of prior work. If prior projects were of a sort not ordinarily resulting in a publishable report, a narrative should be included detailing the proposed project director's previous experience along with references suitable to obtain opinions regarding the adequacy of this earlier work.

b. Archeologist. The minimum professional qualifications in archeology are:

(1) A graduate degree in archeology, anthropology, or closely related field or equivalent training accepted for accreditation purposes by the Society of Professional Archeologists;

(2) Demonstrated ability to carry research to completion, usually evidenced by timely completion of theses, research reports, or similar documents; and

(3) At least 16 months of professional experience and/or specialized training in the archeological field, laboratory, or library research, administration, or management including at least 4 months of experience in archeological field research and at least 1 year of experience and/or specialized training in the kind of activity the individual proposes to practice. For example, persons supervising field archeology should have at least 1 year or its equivalent in field experience and/or specialized field training, including at least 6 months in a supervisory role. Persons engaged to do archival or documentary research should have had at least 1 year of experience and/or specialized training in such work. Archeologists engaged in regional or agency planning or compliance with historic preservation procedures should have had at least 1 year of experience in work directly pertinent to planning, compliance actions, etc., and/or specialized historic preservation or cultural resource management training. A practitioner of prehistoric archeology should have had at least 1 year of experience or specialized training in research concerning archeological resources of the prehistoric period. A practitioner of historic archeology should have had at least 1 year of experience in research concerning archeological resources of the historic period. Experience in archeological research in the region where the project will be undertaken is usually desirable.

c. Historian. The minimum professional qualifications in history are a graduate degree in American History or a closely related field or a Bachelor's degree in history or a closely related field plus one of the following:

(1) At least 2 years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historical organization or agency, museum, or other professional institution; or

(2) Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

d. Architectural Historian. The minimum professional qualifications in architectural history are a graduate degree in architectural history, historic preservation, or closely related field, with course work in American architectural history; or a Bachelor's degree in architectural history, with a concentration in American architecture; or a Bachelor's degree in architectural history, historic preservation, or closely related field plus one of the following:

(1) At least 2 years of full-time experience in research, writing, the teaching of American History or restoration architecture with an academic institution, work experience with a historical organization or agency, museum, or other professional institution; or

(2) Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

e. Consultants. Personnel hired or subcontracted for their special knowledge and expertise must carry academic and experiential qualifications in their own fields of competence. Such qualifications are to be documented by means of vitae attachments submitted with the proposal or at a later time if the consultant has not been retained at the time of proposal.

f. Institutional or Corporate Qualifications. Any institution, organization, etc., obtaining this contract, and sponsoring the P.I. or Project Director and meeting the previously given requirements must also provide or demonstrate access to the following capabilities:

(1) Adequate field and laboratory equipment necessary to conduct whatever operations are defined in this Scope of Work. However, this qualification may be waived under circumstances of extreme need through negotiations.

(2) Adequate facilities necessary for proper treatment, analysis, and storage of specimens and records likely to be obtained from a given project. This does not necessarily include such specialized facilities as pollen, geochemical, or radiological laboratories, but it does include facilities sufficient to properly preserve or stabilize specimens for any subsequent specialized analysis.

14. Disposition of Data. When the recovered data have been removed from non-federally owned lands such as State, municipal, corporate, or privately held land, then negotiated arrangements must be made. Based on the principle governing these negotiations in instances where public funds are expended for the recovery of such data, the public must be the benefactor. All data removed from federally owned lands are the property of the Federal Government.

15. Release of Information. Neither the Contractor nor his representatives shall release any sketch, photograph, report, or other material of any nature obtained under the contract without specific written approval of the Corps of Engineers prior to the time of final acceptance by the Government.

16. Period of Service. The Contractor will be required to commence work under this contract within 10 calendar days after the receipt of signed contract and to adhere to the following deadlines:

Completion of field work 100 days from contract award date
Completion of Analysis 300 days from contract award date
Submittal of Draft Final Report 360 days from contract award date

Submittal of Final Report and all remaining work 510 days from contract award

A delay of up to 90 days can be expected for District review and approval of the draft and final reports prior to acceptance by the Government.

17. Schedule of Service. The field survey conducted in accordance with paragraph 7 of this Scope of Work will be scheduled as follows, and the results of the surveys for individual areas will be reported in the first monthly progress report (required by paragraph 9b) submitted after completion of the individual surveys.

Poe's Ridge
N.C. Division of Forestry, Bells Landing
and Rivers Junction
Robeson Creek
Wildlife Subimpoundments
N. C. Division of Wildlife Headquarters
Morgan Creek

18. Method of Payment. Partial payments to the Contractor for services performed under this contract will be made at the end of each month, based on an approved estimate of value of work accomplished during the month. The dollar value of each stage of work will be indicated on a progress schedule. The amounts of partial payments due the Contractor shall be determined by the Contracting Officer's Representative on the basis of approved monthly progress reports expressed as a percentage of work accomplished. Ten percent (10%) will be deducted from each partial payment estimate, such deductions to be retained until all work under each stage has been completed and accepted, at which time all remaining amount due, together with retainage, will be paid to the Contractor.

ATTACHMENT 1
PROGRESS REPORT

1. Analysis of Research Task completion. Fill in as appropriate.

Task

1

2

3

4

5

10 20 30 40 50 60 70 80 90 100
PERCENT COMPLETE

2. Specify field and laboratory operations accomplished this period.
3. Provide a brief evaluation of the cultural resources identified to date in the area under study. Give justification for any recommended mitigation, further survey, or clearance for construction.

PROPOSAL FOR:
ARCHEOLOGICAL INVESTIGATIONS OF THE AREAS OF
PROPOSED RECREATIONAL DEVELOPMENT
AND PROPOSED WILDLIFE SUBIMPOUNDMENTS AT
B. EVERETT JORDAN DAM AND LAKE, NORTH CAROLINA

PREPARED FOR:
UNITED STATES ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

BY:
COMMONWEALTH ASSOCIATES INC.
209 EAST WASHINGTON AVENUE
JACKSON, MICHIGAN 49201

MARCH 22, 1982

TECHNICAL PROPOSAL
62-022-P25

"These data, furnished in connection with Request for Proposals No. DACW54-82-R-0020, shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than to evaluate the proposal; provided, that if a contract is awarded to this offeror as a result of or in connection with the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the contract. This restriction does not limit the Government's right to use information contained in the data if it is obtained from another source without restriction. The data subject to this restriction is contained in Sheets M-3 to M-7 (1966 DEC)"

INTRODUCTION

Commonwealth Associates Inc. is pleased to respond to the Wilmington District's RFP DACW54-82-R-0020 for cultural resources investigations at B. Everett Jordan Dam and Lake, North Carolina. Members of Commonwealth's staff who prepared this Proposal 62-022-P25 and would perform the work under this contract have demonstrated long-standing interests in cultural resource management projects in North Carolina. Our combined experiences include several archeological survey and excavation programs in the state, particularly those involving B. Everett Jordan Dam and Lake and Falls Lake for the Wilmington District (Claggett et al. 1978; Claggett 1981; Claggett and Cable, assemblers 1982; Newkirk 1979; Cable 1981). Other relevant projects include work performed for various other federal agencies, private corporations and personal research projects (Anderson et al. 1979; Anderson and Claggett 1979; Anderson 1979). Successful completion of those projects, combined with Commonwealth's overall record and capabilities with large Cultural Resource Management projects nation-wide, make us a natural candidate for the current B. Everett Jordan project.

Commonwealth's Proposal 62-022-P25 specifically addresses each technical and cost estimation item in the subject RFP. Separate sections of the following technical proposal explain our fieldwork strategies, data analysis procedures and report preparation schedule. Pertinent information on project staff members is included. A summary of cost elements is appended to this technical proposal, which designates all labor and direct and indirect costs on a task-by-task basis.

RESEARCH DESIGN

The current program of cultural resources survey and evaluation at B. Everett Jordan Dam and Lake marks only one in a long series of archeological and historical investigations in that area. Nearly 20 years of field surveys and excavations have been conducted, primarily by personnel from the Research Laboratories of Anthropology at the University of North Carolina - Chapel Hill (Smith 1964,1965; McCormick 1969,1970; Wilson 1976). More recent investigations have involved small surveys (Autry 1976; Newkirk 1979), testing programs (Adams et al. 1979; Mueller et al. 1979; Cable 1981) and a major excavation/data recovery project (Claggett and Cable, assemblers 1982). The majority of those efforts during the last five to six years have been conducted by archeologists and historians working for private consulting firms.

A significant element lacking in those projects has been a unifying, comprehensive research design, needed for adequate performance of research and evaluation tasks under the several government-sponsored contracts (cf. Claggett 1982a). Until quite recently, surveys and excavations at B. Everett Jordan have been conducted in very piecemeal fashion, with little uniformity of data collection techniques, much less derivation of methods for identifying and evaluating potentially significant resources. Surveys were concentrated in easily accessible areas of cultivated fields and in lowland areas of the reservoir, to the virtual exclusion of upland zones. Despite difficulties of access and site location in those latter areas, recent studies have demonstrated that they occasionally produce sites significant for a full understanding of the resource base (Newkirk 1979; Cable 1981).

Salient research questions posed by early investigators at B. E. Jordan have been few in number and inadequately formulated. Specific to only a few known sites in the reservoir, questions have

been posited dealing mainly with Archaic and Woodland chronologies based on ceramic and lithic assemblage typologies, with little consideration for predictive settlement models or frameworks for evaluation of site significance (McCormick 1970; Wilson 1976).

More recent investigations have sought to remedy those situations by critically assessing the known data base and conducting new projects in terms of clearly defined research goals (Adams et al. 1979; Mueller et al. 1979; Cable 1981). The most comprehensive structure for treating prehistoric resources of the Jordan reservoir area has been developed during the large-scale data recovery program at sites 31Ch29 and 31Ch8, located in the Haw River portion of the project area (Claggett and Cable, assemblers 1982). Adapted from recent ideas in archeological and ecological theory (Binford 1980), a model for characterizing prehistoric hunter-gatherer (H-G) adaptational patterns has been presented. The model can (theoretically) allow identification of functional site types and larger settlement strategies according to a defined set of tool assemblage characteristics, which varied through time in relation to diachronic patterns of climatic change (Cable 1982). Modelled variations in resource structure (plant and animal communities) have influenced cultural behavioral patterns and will be mirrored archeologically in technological and settlement systems.

As it now stands, the proposed model has been tested only with excavated data from sites 31Ch29 and 31Ch8. Widespread application to the larger area of the Jordan reservoir and the Piedmont demands consideration of the model using survey-level data from a variety of other sites, located in areas other than the immediate Haw River vicinity (Claggett 1982b). We therefore propose to further evaluate and possibly refine the Haw River model, using data generated by survey of upland and subimpoundment development areas in the New Hope River and Haw River drainages.

Using existing typologies (Coe 1964) and those developed during the Haw River project (Claggett and Cable, assemblers 1982), we will establish chronological parameters for discovered sites, which will also allow characterization of their function within hypothesized settlement systems. Since this is a clear opportunity to generate new survey-level data, we further propose to integrate an analysis program based on catchment analysis into our research design, which will permit us to accurately define the local environmental variables which affected site selection decisions. Assemblage and catchment analyses will be conducted using sites reported from the reservoir through the close of the present survey project and for which adequate data are available. The analysis will focus on the locations of settlement and the kinds of activity occurring at these locations over time. Functional analysis of assemblages at the site level using the Haw River model should permit general interpretations of the kinds of activities that were occurring; this analysis will complement the catchment/ecological analysis by determining intra-site patterns of activity.

The use of site-catchment analysis serves several functions (cf. Roper 1979; Dennell 1980). First, it provides a method for describing and evaluating the locations (i.e., ecological characteristics) selected for settlements by past human groups. Second, through an examination of the observed locational characteristics, inferences about site function may be developed, both independently and in conjunction with an analysis of the associated artifactual assemblage. Catchment analysis, therefore, can help the archeologist infer and/or establish the kinds of activities that were occurring on particular sites. Finally, by establishing relationships between site location and site function (and possibly even period of occupation), the analysis can be used for predictive modeling. That is, it should be possible to predict the kinds of sites that will occur in a (previously unexamined) area, given only locational and/or ecological data. Examining the locations selected during given periods, and the assemblages found in these locations, it should be possible to begin to reconstruct

aspects of group settlement patterns. Claggett (1981) has argued, for example, that the shift from Early Archaic to Middle Archaic in the upper Neuse River area was marked by a change from a logistically based collecting settlement system to a residentially mobile foraging adaptation (cf. Binford 1980). This and other hypothetical settlement shifts (i.e., from "focal" to "diffuse" or mobile to sedentary) can be directly addressed using data from the proposed Jordan reservoir surveys.

Environmental variables within fixed 200 meter and one kilometer circular catchments will be recorded for all sites in the project area from which temporally diagnostic artifacts have been recovered (Figure 1). Soils, potential vegetation, and drainage factors will be stressed; these, and particularly soils when ranked by productivity, appear to be fairly sensitive determinants of settlement (cf. Peebles 1978; Morse 1981). The size of the catchments, 200 and 1000 meters, reflects an interest in both the immediate (on-site) environment, and the general surroundings that were almost certainly exploited to some extent from the site proper (and hence one reason for its location). Following procedures outlined and illustrated by Roper (1974, 1975, 1979), Findlow (1980) and others, the Jordan reservoir catchment data will be used to define a series of site locational types, that is, groups of sites possessing similar environmental conditions (clusters of ecological attributes). By tabulating component and assemblage data against these locational values (i.e., recording how many Early, Middle or Late Archaic components occur on location type A, B, etc.) it should be possible to delimit the range of locations exploited by the inhabitants of the area, over time, at least within the boundaries of the study area. The patterns of settlement that are detected can then be directly compared with those expected under any of several settlement models (see Claggett 1981:24-50; Goodyear, House, and Ackerly 1979:147-178 for a discussion of possible models of human settlement in the Piedmont).

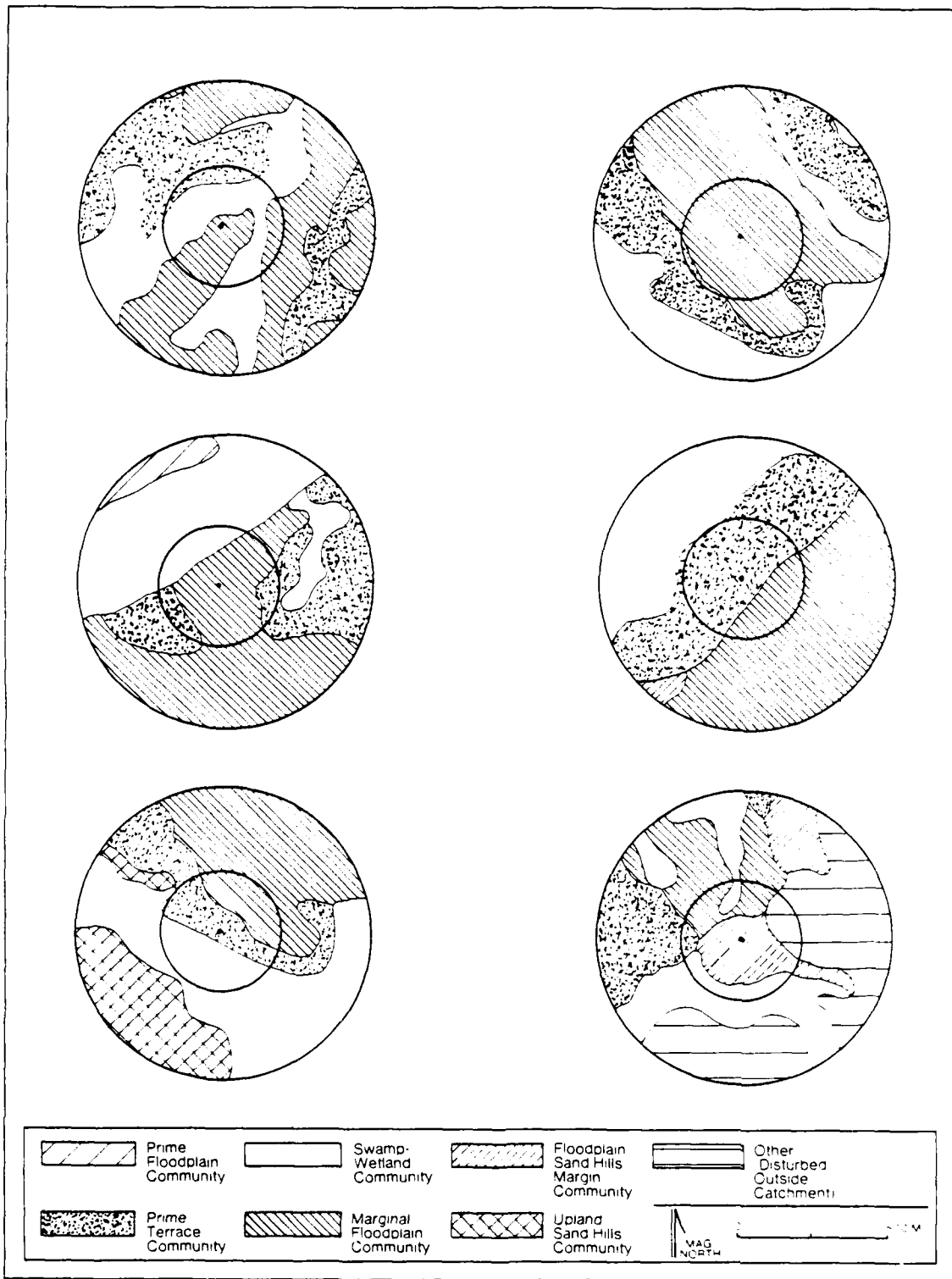


Figure 1. Site catchments (200 and 100 m) based on soils, vegetation, and drainage factors, from Fall Line and Piedmont archeological sites.

Following the completion of the settlement/catchment analysis, the cultural resource data from the reservoir will be synthesized and summarized. A brief period by period review of the evidence for human occupation will be presented, combining the results of the artifactual/sequence generation effort with those of the catchment/assemblage investigations. The result, an overview of settlement patterns over the period of human occupation, from a tightly defined locality and data set, should serve as a model to guide future investigations in the region.

Literature review and archival investigations of historic documents also will be performed in conjunction with the archeological background and field studies. Commonwealth researchers are already familiar with sources noted in the subject RFP as a result of their previous work in the area (Claggett 1982a). We will, of course, review other archeological site data available at the Archeology Branch, North Carolina Division of Archives and History and the Research Laboratories of Anthropology, University of North Carolina - Chapel Hill.

Historic background studies will be conducted by Dr. John R. Kern, Manager of Commonwealth's Human Resources Planning Department. They will include sources at the North Carolina Department of Archives and History, the Southern Historical Collection and other information sources accessible through contacts with regional historians (cf. Anderson 1977,1979). Other secondary sources not mentioned in the RFP which may contain data pertinent to reconstruction of early historic land-use patterns also will be considered as part of this effort (Chamberlain 1922; Hadley, ed., 1971; Lefler and Wager, eds., 1953; Fuqua 1966; Merrens 1964).

SURVEY METHODS

Specific site discovery techniques used by Commonwealth field crews will include systematic pedestrian survey, along regular transects, of all areas designated in DACW54-82-R-0020. A regularized series of shovel tests, formal test excavation units, and selective backhoe trenches will augment the surface inspection process and provide means for accurately delimiting the horizontal and vertical distribution and physical integrity of cultural deposits.

The order in which items will be surveyed adheres to that noted in the subject RFP. Certain expectations are, or will be, generated that assist in the location and identification of prehistoric and historic sites, based on the collective experiences of project team members who have worked at Jordan Reservoir before or have conducted surveys under similar conditions. Historic documentation of farm, industry, transportation and socioeconomic activities will also influence site survey and identification activities. Studies by other researchers at Jordan Reservoir (e.g., Coe 1965; Smith 1965; McCormick 1969, 1970; Autry 1976; Newkirk 1979) and site data available through the Archeology Branch, North Carolina Division of Archives and History, and Research Laboratories of Anthropology, University of North Carolina - Chapel Hill, will provide additional, important information on the nature and distribution of archeological sites within the reservoir area.

Based on previous analysis of those data sets (Claggett 1982a) and direct observation of topographic and other environmental factors present in the reservoir zone, Commonwealth offers a precise set of survey coverage rates for each item area to the Wilmington COE. As alternatives to the original survey estimates provided by the COE, these figures represent accurate and reasonable parameters for examination of the wildlife subimpoundments, recreation and administration areas (see Tables 1 and 2).

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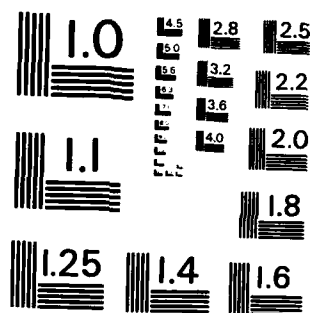
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TABLE 1
PROPOSED SURVEY COVERAGE OF B. E. JORDAN RESERVOIR ITEMS

Survey Area	Total Area (ha)	COE Survey Intensity		CAI Survey Intensity		
		High	Moderate	High	Moderate	Low
North Carolina Division Forestry	363.4	36.4	327.0	36.4	163.5	163.5
Bell's Landing/ Bride Trails	192.2	4.0	188.2	4.0	94.1	94.1
Rivers Junction	32.4	1.6	30.8	1.6	15.4	15.4
Robeson Creek	149.8	16.2	133.6	16.2	66.8	66.8
North Carolina Wildlife Headquarters	22.2	4.0	18.2	4.0	9.1	9.1
Morgan Creek	242.8	50.6	192.2	50.6	96.1	96.1
Subimpoundments						
No. 1	53.3	53.3	-	13.3	26.7	13.3
2	80.5	80.5	-	20.1	40.3	20.1
3	141.2	141.2	-	35.3	70.6	35.3
4	172.7	172.7	-	43.2	86.3	43.2
5	50.0	50.0	-	12.5	25.0	12.5
6	44.3	44.3	-	11.1	22.1	11.1
7	176.9	176.9	-	44.2	88.5	44.2
TOTALS	1721.7	831.7	890.0	292.5	804.5	624.7

TABLE 2
FACTORS INFLUENCING SURVEY INTENSITY DECISIONS

Survey Area	Known Sites	Survey/ Testing Data	Construction	Upland Erosion	Floodplain Configuration	Shallow H ₂ O Tables
North Carolina Division Forestry	X	X	X	X	-	-
Bell's Landing/ Bride Trails	X	X	X	X	-	-
Rivers Junction	X	X	X	X	-	-
Robeson Creek	-	-	X	X	-	-
North Carolina Wildlife Headquarters	X	X	X	X	-	-
Morgan Creek	X	X	X	X	-	-
Subimpoundments						
No. 1	X	X	X	-	X	X
2	X	X	X	-	X	X
3	X	X	X	-	X	X
4	X	X	X	-	X	X
5	-	-	X	-	X	X
6	-	-	X	X	X	X
7	X	X	X	-	X	X

Certain, very real factors influence our assessment and presentation of these figures other than "experience" of our staff or other researchers. Geological, soil, rainfall, vegetation, cultivation and, consequently, erosion patterns have decidedly affected the formation and preservation (or, more commonly, destruction) of archeological sites in the Piedmont. Those environmental factors have received serious study in the last decade (Trimble 1974, 1977, n.d.), but until quite recently, have been ignored by archeologists working in the same area (Coe 1964; Taylor and Smith 1978; Goodyear et al. 1979; House and Ballenger 1976; Claggett 1981). Consideration of those causes and effects demands that we acknowledge the potentials for discovering or not discovering relatively intact sets of archeological remains. Determinations of site significance according to National Register (36CFR800) and other, less formalized, criteria (such as research dealing with chronologies and settlement patterns) usually depend on data types present only at (rare) non-disturbed sites.

Mathis (1979) has discussed the problem of site significance determinations for North Carolina, while an extensive body of Cultural Resource Management literature exists (Moratto and Kelly 1978) which deals with the problem on a more general level.

The research strategy discussed in this proposal for dealing with Jordan Reservoir archeological sites minimizes the necessity for finding deeply-buried sites or those having intact features (McCollough, Bass and Autry 1981) to determine "significance." By treating them in terms of larger spatial and cultural entities of settlement systems (Roper 1975), Commonwealth proposes an alternative means of evaluating discovered activity loci, and thereby making adequate and complete assessments of significance and project impacts.

The discovery of deeply-buried, or even clearly stratified archeological sites is of particular relevance to the present survey

efforts. As discussed by Claggett (1982a) in his review of previous archeology in the reservoir area, the location and excavation of stratified sites was one of few clearly stated goals for investigators like Smith (1965), McCormick (1969,1970) and Wilson (1976). This was due especially to their research objectives of deriving artifact sequences and, eventually, local cultural chronologies comparable to those of Coe (1964). Attempts to find and excavate potential sites of that category met with very limited success, however. The Farrar Farm site complex (31Ch44, Ch45, Ch190 and Ch231), located near the confluence of Beaver Creek and the New Hope River, and site 31Ch34 (at the Haw/New Hope confluence) were tested by McCormick (1970) in hopes of finding stratified archeological components. For reasons apparently unclear to him at the time, neither locale produced the anticipated results. Other University of North Carolina - Chapel Hill excavations conducted by McCormick (1969,1970) and Wilson (1976) at what are now called the Haw River sites (31Ch8, Ch28 and Ch29) were somewhat more successful in that regard, although attentions were concentrated mainly on Late Archaic and Woodland components in fairly shallow stratigraphic contexts (Claggett 1982a).

The most recent work in the reservoir, conducted by Commonwealth Associates in 1979 at the same Haw River site group, included an exhaustive analysis of the geomorphological conditions necessary for the creation and preservation of deeply-stratified sites in areas like Jordan Reservoir and the Piedmont in general (Larsen 1982).

That study thoroughly examines geological factors and long-term environmental conditions that have influenced floodplain formation processes in the Piedmont (see also Coe 1964). Although the geoarcheological model presented by Larsen is particular to the Haw River sites locality, its basic principles apply equally to the New Hope River drainage (and the Piedmont in general). Larsen's

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findings thus constitute defensible, objective bases for predicting potential locations of stratified archeological sites in the entire Jordan Reservoir.

Larsen's model, in combination with information from situations like the Farrar Farm sites therefore lead us to argue that few deeply-buried, intact archeological sites will be present in survey areas designated in RFP DACW54-82-R-0020. Geomorphic conditions along the relatively mature, actively meandering New Hope River or its tributaries do not permit formation of stable alluvial terrace systems that might contain such sites.

Investigations of upland sites throughout the Piedmont further support our contentions that intact deposits will occur only very rarely in designated survey areas outside stream floodplains (Coe 1964; House and Ballenger 1976; Trimble 1974; Claggett et al. 1978). Studies specific to the Jordan project area confirm the typical pattern of massive erosion of upland surfaces and destruction of archeological sites (McCormick 1970; Newkirk 1979; Adams et al. 1979). Sporadic occurrences of relatively intact Piedmont upland sites have been documented, however (Coe 1964; House and Wogaman 1978), including site 31Ch366 in the New Hope area, investigated recently by Commonwealth archeologists (Cable 1981).

The site discovery methods proposed by Commonwealth for RFP DACW54-82-R-0020 therefore include reasonable means for identifying and evaluating the types of sites predictable for the environs of Jordan Reservoir. An appropriate mixture of surface inspection, subsurface shovel tests and test pits and a limited amount of deep backhoe trenching will be performed, based on the collective experiences of Commonwealth and other Piedmont archeologists, in addition to the objectively defined geomorphological criteria for preservation/destruction of archeological sites.

Specific field procedures employed during the proposed survey effort meet or exceed all requirements noted in the project RFP. Systematic pedestrian transect coverage, with regular shovel testing, will be employed in all overgrown areas and/or areas where shallow cultural deposits are expected (i.e., upland, slope settings). Deeper test pitting and/or backhoe trenching will be used where buried deposits are expected, as in certain floodplain settings. The regular survey and testing efforts proposed below will be intensified in areas where a high probability of cultural resources exists, such as along terrace edges or at tributary stream confluences.

In areas selected for high intensity survey, crew members will proceed employing regularly spaced (20 meter) transects, with 30 centimeter shovel tests placed every 50 meters. Moderate intensity survey coverage will be along transects spaced 35 meters apart, with shovel tests located every 65 meters. Low intensity survey coverage will entail use of 100 meter transect intervals, with shovel tests every 60 meters. Both transect spacing and the interval between shovel tests will be reduced in areas with a high potential for yielding cultural resources.

The pedestrian survey coverage will be supplemented by larger test excavation units (one meter square or one by two meters) at sites where unusual density, unique components, or the possibility for buried deposits appear likely. Testing operations will be conducted on at least ten site locations, to be determined on the basis of the initial survey and in consultation with Corps of Engineers archeological personnel. Deep testing, employing a backhoe, will also be employed at a number of sites and locations, particularly in floodplain areas. Standardized profiles of all trenches and test pits will be prepared, using engineering graph paper, with Munsell charts used to document soil color. The fill from the test pits will be screened using 1/4 inch mesh, with standardized square/level, feature, and special sample forms used as appropriate. Color slide

and black and white documentary photographs will be taken as appropriate, illustrating profiles, floors, and general field methods.

Controlled surface collections (in open areas) and radial shovel testing (in overgrown areas) will be employed to define site content and boundaries. Surface collection will entail equal area collection loci, dispersed intuitively and/or using a stratified random sampling procedure (as described in Goodyear, House, and Ackerly 1979:78-80). Artifacts outside of specific collection loci will be collected as a general sample, and tied into specific sample points whenever possible. Radial shovel testing to locate site boundaries in overgrown areas, and controlled collection in open areas, will provide some measure of internal site assemblage variability useful for the proposed intra-site and inter-site functional/settlement analyses.

Upon return from the field all artifacts will be washed and cataloged, and prepared for eventual permanent curation. Typological and functional analyses of the assemblages will be conducted, to support project research and resource management goals. Permanent curation of the collections, which are the property of the U.S. Government, will be arranged with the Corps of Engineers upon the close of the project.

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APPENDIX D

**JORDAN CODING MANUAL
COMPOSITE ARCHEOLOGICAL SITES DATA**

APPENDIX D
JORDAN CODING MANUAL
COMPOSITE ARCHEOLOGICAL SITES DATA

(Codes and variables recorded from the North Carolina Archeology Branch Site Record Form and Handbook in Mathis, assembler 1979:300-311, Appendix J, are referred to below as "(NCRH)")

Variable 1 Site number

For prerecorded sites the site number is the official state site number while for sites recorded during the present study the site number includes a survey team designation (A or B), the recreational development area (3, 4, 6, 9, 11, 20), and site number which run consecutively per recreational development area.

Variable 2 County (NCRH)

Ch = Chatham, Or = Orange, Dr = Durham, Wa = Wake

Variable 3 U.S.G.S. quadrangle 7.5 minute (NCRH)

C102 = Chapel Hill, NC
F11 = Farrington, NC
G36 = Green Level, NC

N28 = New Hill, NC
N07 = New Hope Dam, NC
S77 = Southwest Durham, NC

Variable 4 Number of positive shovel tests recorded during the present survey

Variable 5 Number of negative shovel tests recorded during the present survey

Variable 6 Topographic situations (NCRH) supplemented by elevation data from the terrace sequence developed in this report (see sections on geology and model).

4 = Natural Levee	14 = stream confluences
5 = Levee remnant	15 = terrace edge
6 = 1st terrace (elevation 195'-210')	16 = hammock
7 = 2nd terrace (elevation 211'-235')	17 = sandy beach
8 = 3rd terrace (elevation 236'-250')	18 = rock shelter
9 = sand dune	19 = island
10 = upland or talus slope	20 = fan (alluvial or colluvial)
11 = upland flats	21 = toe slope/ridge toe
12 = hill or ridgetop (elevation 251'+)	22 = cave
13 = saddle (elevation 251'+)	99 = other

Variable 7 Soil type (adapted from Journey, Miller and Bacon 1937)

1 = Georgeville silty clay loam	8 = Wadesboro fine gravelly phase
2 = Rough stony land	9 = Orange silt loam
3 = Georgeville gravelly silty clay loam	10 = Roanoke silt loam
4 = Goldston gravelly silt loam	11 =
5 = Georgeville stony silt loam	12 = Altavista fine sandy loam
6 = White Store fine sandy loam	13 = Davidson clay loam, hilly phase
7 = Granville fine sandy loam	14 = Georgeville silt loam

Variable 8 Modern vegetation (NCRH)

1 = cultivated	6 = lawn
2 = cleared (in field)	7 = marsh grass
3 = pasture	8 = secondary growth
4 = forested	9 = disturbed/upturned
5 = scrub pine clearing	10 = no vegetation/cleared
	99 = other

Variable 9 Elevation of site (interpolated from U.S.G.S. topographic quadrangles). This variable was recorded as Variable 95 into categories: 1 = 1-211, 2 = 212-245, 3 = 246-279, 4 = 280-314, 5 = 315-349, 6 = 350-430.

Variable 10 Slope face direction

0 = unobserved	5 = southeast
1 = north	6 = south
2 = northeast	7 = west
3 = east	8 = northwest
4 = southeast	

Variable 11 Distance (in meters) to nearest permanent water. This variable was recoded as Variable 96 into categories: 1 = 1-118, 2 = 119-362, 3 = 363-606, 4 = 607-850, 5 = 851-1094, 6 = 1095-1200.

Variable 12 Elevation (in meters) of nearest permanent water. This variable was recoded as Variable 97 into categories: 1 = 1-163, 2 = 164-187, 3 = 188-209, 4 = 210-233, 5 = 234-257, 6 = 258-281, 7 = 282-310.

Variable 13 Distance (in meters) to second nearest permanent water. This variable was recoded as Variable 98 into categories: 1 = 1-342, 2 = 343-707, 3 = 708-1069, 4 = 1070-1431, 5 = 1432-1792, 6 = 1793-2000.

Variable 14 Elevation (in meters) of second nearest permanent water. This variable was recoded as Variable 99 into categories: 1 = 1-185, 2 = 186-204, 3 = 205-223, 4 = 224-242, 5 = 243-270.

Variable 15 Maximum elevation (in meters) in catchment. This variable was recoded as Variable 100 into categories: 1 = 1-220, 2 = 221-253, 3 = 254-286, 4 = 287-319, 5 = 320-352, 6 = 353-390.

Variable 16 Minimum elevation (in meters) in catchment. This variable was recoded as Variable 101 into categories: 1 = 1-200, 2 = 201-228, 3 = 229-256, 4 = 257-284, 5 = 285-312, 6 = 313-350.

Variable 17 Maximum number of contours in catchment. This variable was recoded as Variable 102 into categories: 1 = 1-2, 2 = 3-4, 3 = 5-6, 4 = 7-8, 5 = 9-10.

Variable 18 Number of water sources in catchment.

Variable 19 Site size (NCRH)

- 0 = not recorded/unknown
- 1 = 1-10 meters² (1 to 316 meters on a side)
- 2 = 11-25 meters² (3.32 to 5 meters on a side)
- 3 = 26-100 meters² (5.1 to 10 meters on a side)
- 4 = 101-600 meters² (10.05 to 24.49 meters on a side)
- 5 = 601-5000 meters² (24.52 to 70.71 meters on a side)
- 6 = 5001-10,000 meters² (70.72 to 100 meters on a side)
- 7 = 10,001-25,000 meters² (100 to 158.11 meters on a side)
- 8 = 25,001-50,000 meters² (158.12 to 223.61 meters on a side)
- 9 = Greater than 50,000 meters² (greater than 223.61 meters on a side)

Cultural/temporal periods Variables 20-32

20 Paleo	27 Late Woodland
21 Dalton	28 Mississippian
22 Early Archaic	29 Protohistoric
23 Middle Archaic	30 18th century historic
24 Late Archaic	31 19th century historic
25 Early Woodland	32 20th century historic
26 Middle Woodland	

Variable 33 Number of outbuildings at historic site

Variable 34 Unidentified temporal period

Debitage lithic material Variables 35-51 (counts)

35 latite porphyry - green	44 glomeroporphyritic latite
36 andesitic felsite	45 devitrified felsite
37 latite felsite or tuff	46 felsite - reddish-gray felsite
38 tuff (welded?)	47 andesitic porphyry
39 latite porphyry - gray	48 andesitic porphyry
40 white quartz	49 latite tuff
41 felsic porphyry	50 chert
42 felsite - brownish-grey felsite	51 crystal quartz
43 light greenish-gray felsite	

Variable 52 Count of pottery recovered

Variable 53 Aggregate (drainage area)

1 = Lower New Hope	6 = Bush Creek
2 = Upper New Hope	7 = Parkers Creek
3 = Morgan Creek	8 = Kirts Creek
4 = White Oak Creek	9 = Haw River
5 = Beaver Creek	

Artifact class Variables 54-66 (counts)

54 fire-cracked rock	60 daub
55 unmodified rock	61 shell
56 uniface	63 unidentified debitage
57 biface	64 hammerstone
58 core	65 pitted cobble
59 steatite	66 groundstone

Variable 67 Banded latite debitage (count)

Variable 68 Stream rank of first nearest permanent water

Variable 69 Stream rank of second nearest permanent water

General cultural-historical periods for sites cited in reports, Variables 70-72

- 70 Archaic
- 71 Woodland
- 72 "Colonial" (interpreted as general historic sites)
- 73 Site size in meters squared, actual dimension. This variable was recoded as Variable 103 into categories: 1 = 1-1363, 2 = 1364-2991, 3 = 2992-4619, 4 = 4620-6247, 5 = 6248-7875, 6 = 7876-9503, 7 = 9504-11,160.

Hafted biface/projectile point name Variables 74-94 (counts)

74 Halifax	85 Otarre
75 Clovis	86 Swannanoa
76 Dalton	87 Large triangular
77 Hardaway	88 Small triangular
78 Palmer	89 Yadkin
79 Kirk corner notched	90 Small stemmed
80 Kirk stemmed	91 Large stemmed
81 Morrow Mountain I	92 Badin
82 Morrow Mountain II	93 St. Albans
83 Guilford	94 Stanly
84 Savannah	

APPENDIX E

JORDAN CODING MANUAL

HAFTED BIFACES/PROJECTILE POINTS

**APPENDIX E
JORDAN CODING MANUAL
HAFTED BIFACES/PROJECTILE POINTS**

Variable 1 Survey team, Sample unit number, site number

Survey team A=1, B=2

Unit number is the recreational development area surveyed including 3, 4, 6, 9, 11, 20 and site numbers run consecutively.

Variable 2 Laboratory bag number (run consecutively)

Variable 3 Artifact number, run consecutively per bag

Variable 4 Type of collection unit

- 1 = shovel test
- 2 = road cut with shovel test
- 3 = lake edge with shovel test
- 4 = general surface
- 5 = road cut
- 6 = lake edge
- 7 = shovel test augmented by 1x1 m excavation unit
- 8 = general surface with shovel test
- 9 = no collection strategy
- 10 = general surface collection with 1x1 m excavation unit
- 11 = general surface with shovel test and 1x1 m unit
- 12 = no collection with shovel test
- 13 = collection circles, general surface, with shovel test

Variable 5 Type traditional name or physical attribute description

36 = Clovis	48 = Large triangular
37 = Dalton	49 = Small triangular
38 = Hardaway corner-notched	50 = Yadkin
39 = Palmer corner-notched	51 = Small stemmed
40 = Kirk corner-notched	52 = Large stemmed
41 = Kirk stemmed/serrated	53 = Unidentified notched
42 = Morrow Mountain I	54 = Badin
43 = Morrow Mountain II	55 = Halifax
44 = Guilford	56 = Drill
45 = Savannah River	81 = St. Albans
46 = Otarre	82 = Stanly
47 = Swannanoa	

Variable 6 Lithic material type

1 = latite porphyry - green	10 = glomeroporphyritic latite
2 = andesitic felsite	11 = devitrified felsite
3 = latite felsite or tuff	12 = felsite - reddish-gray felsite
4 = tuff (welded?)	13 = andesitic porphyry

5 = latite porphyry - gray
6 = white quartz
7 = felsic porphyry
8 = felsite - brownish-gray felsite
9 = light greenish-gray felsite

14 = andesitic porphyry
15 = latite tuff
16 = chert
17 = crystal quartz
31 = unidentified

Variable 7 Condition

1 = whole
2 = tip
3 = base
4 = mid-section

5 = lateral section
6 = tip missing
7 = base missing
8 = barb, shoulder, ear missing

Continuous metric attributes Variables 9-18 measured in millimeters (Figure E1)

Variable 9 Maximum thickness

Variable 10 Maximum thickness 1/2 way up blade and haft intersection

Variable 11 Basal Width

Variable 12 Width of tang

Variable 13 Width at shoulder

Variable 14 Width 1/2 way up blade

Variable 15 Axial length

Variable 16 Tang length

Variable 17 Blade length

Variable 18 Notch length

Variable 19 Longitudinal point of maximum thickness

0 = undetermined
1 = proximal

2 = medial
3 = distal

Variable 20 Lateral point of maximum thickness

1 = medial

2 = lateral

Morphological blade attributes Variables 21-27

Variable 21 Tip Shape

0 = absent
1 = triangular
2 = ovate

3 = ovoid
4 = apiculate

Variable 22 Tip angle measured in degrees

Variable 23 Tip damage

0 = no damage	5 = distal tip-snap
1 = snap	6 = hinge
2 = impact fracture	7 = proximal-snap
3 = reworked	8 = proximal-hinge
4 = distal tip missing-hinge	

Variable 24 Transverse section (Figure E2) of blade

0 = indeterminate	5 = bitriangular
1 = plano-convex	6 = asymmetrically biconvex
2 = plano-triangular	7 = asymmetrically bitriangular
3 = biplano	8 = convexo-triangular
4 = biconvex	9 = rhomboid

Variable 25 Longitudinal section of blade (Figure E2)

0 = indeterminate	6 = excurve
1 = plano convex	7 = ovate or triangular
2 = biplano	8 = asymmetrically ovate
3 = biconvex	9 = asymmetrically excurve
4 = asymmetrically biconvex	10 = asymmetrically concavo-convex
5 = concavo-convex	

Variable 26 Shape of blade (Figure E3)

0 = indeterminate	6 = parallel ovate
1 = triangular	7 = expanding ovate
2 = ovate	8 = irregular
3 = incurvate	9 = excurve
5 = excurve-incurvate	

Variable 27 Blade symmetry

- 0 = indeterminate, 1 = symmetrical, 2 = asymmetrical

Variable 28 Outline of base (Figure E3)

0 = indeterminate	5 = concave
1 = straight	6 = triangulo-concave
2 = subconvex	7 = bivectoral
3 = convex	8 = trivectoral
4 = subconcave	9 = bifurcate

Variable 29 Shape of basal edge

0 = missing	3 = irregular
1 = even chipped	4 = notched
2 = even ground	5 = unmodified

Variable 30 Symmetry of haft element

0 = indeterminate, 1 = symmetrical, 2 = asymmetrical

Variable 31 Presence/absence of shoulder or barb subelement

1 = shoulder absent, 2 = barbed, 3 = nonbarbed

Blade attribute Variables 32-36, side one

Variable 32 Lateral edge form

1 = serrated
2 = evenly chipped
3 = evenly ground

4 = irregular
5 = sinuous
9 = missing

Variable 33 Reworking of blade

1 = absent
2 = opposite bevelled
3 = alternately bevelled

4 = even bifacial
5 = steep unilateral
6 = notched

Variable 34 Edge angle measured 1/4 up from shoulder, measured in degrees

Variable 35 Edge angle measured 1/2 up from shoulder, measured in degrees

Variable 36 Edge angle measured 3/4 up from shoulder, measured in degrees

Haft element Variables 37-42 (Figure E4)

Variable 37 Haft element juncture

1 = lateral-lateral juncture
2 = lateral-basal juncture
3 = lateral-coincidental juncture
4 = lateral base defining juncture
5 = coincidental-basal juncture

6 = basal-basal juncture
7 = lateral-axial juncture
8 = unmodified
9 = not present

Variable 38 Distal point of juncture

1 = acute angular
2 = acute circular
3 = obtuse angular
4 = obtuse circular

5 = right angle angular
6 = right angle circular
9 = not present

Variable 39 Medial point of juncture (Figure E4)

1 = absent
2 = obtuse
3 = biotuse
4 = right angled
5 = biright angled

6 = acute
7 = biacute
8 = obtuse-right angled
9 = right-angled obtuse
0 = multijuncture

Variable 40 Proximal point of juncture (same as Variable 38).

Variable 41 Vector articulation

1 = angular, 2 = circular, 9 = not present

Variable 42 Grinding

0 = absent, 1 = present

Variable 43 Aggregate (drainage system)

1 = Lower New Hope

2 = Upper New Hope

3 = Morgan Creek

4 = White Oak Creek

5 = Beaver Creek

6 = Bush Creek

7 = Parkers Creek

8 = Kirts Creek

9 = Haw River

Haft subelement Variables 44-48

Variable 44 Shoulder outline

1 = straight

2 = concave

3 = convex

9 = absent

Variable 45 Form of modified tang

1 = expanding

2 = contracting

3 = parallel

4 = parallel/expanding

5 = biexpanding

6 = contracting/expanding

Variable 46 Outline of most proximal portion of modified tang

1 = straight

2 = convex

3 = concave

9 = missing

Variable 47 Symmetry of unmodified tang

1 = contracting

2 = expanding

3 = parallel

9 = missing

Variable 48 Grinding of unmodified tang

1 = present, 2 = absent, 3 = indeterminate

Blade attribute variables 49-53, side two of tool

Variable 49 Lateral edge form (coded same as Variable 32)

Variable 50 Reworking (coded same as Variable 33)

Variable 51 Edge angle 1/4 up from shoulder (coded same as Variable 34)

Variable 52 Edge angle 1/2 up from shoulder (coded same as Variable 35)

Variable 53 Edge angle 3/4 up from shoulder (coded same as Variable 36)

Haft element Variables 54-59, side two of tool

Variable 54 Haft element juncture (coded same as Variable 37)

Variable 55 Distal point of juncture (coded same as Variable 38)

Variable 56 Medial point of juncture (coded same as Variable 39)

Variable 57 Proximal point of juncture (coded same as Variable 40)

Variable 58 Vector articulation (coded same as Variable 41)

Variable 59 Grinding (coded same as Variable 42)

Haft subelement Variables 60-64, side two of tool

Variable 60 Shoulder outline (coded same as Variable 44)

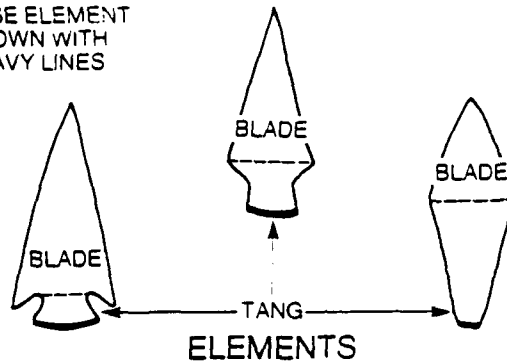
Variable 61 Form of modified tang (coded same as Variable 45)

Variable 62 Outline of most proximal portion of modified tang (coded same as Variable 46)

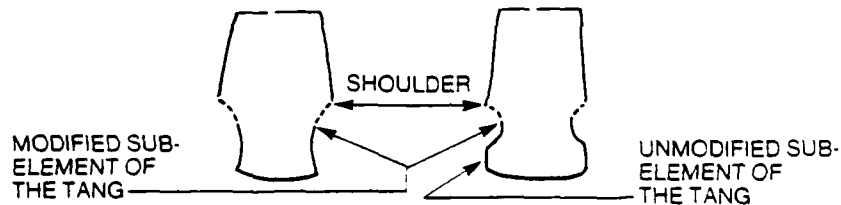
Variable 63 Symmetry of unmodified tang (coded same as Variable 47)

Variable 64 Grinding of unmodified tang (coded same as Variable 48)

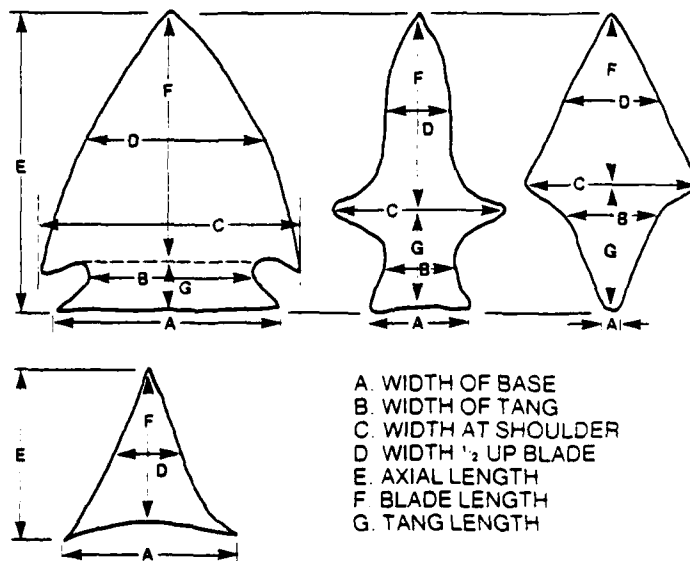
BASE ELEMENT
SHOWN WITH
HEAVY LINES



ELEMENTS



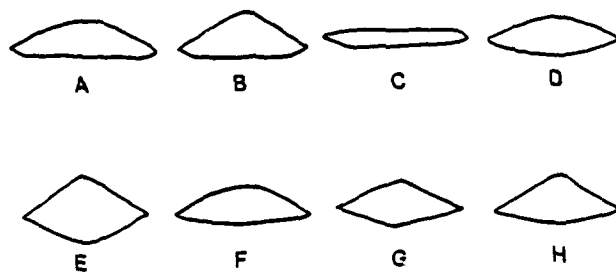
SUB-ELEMENTS



CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

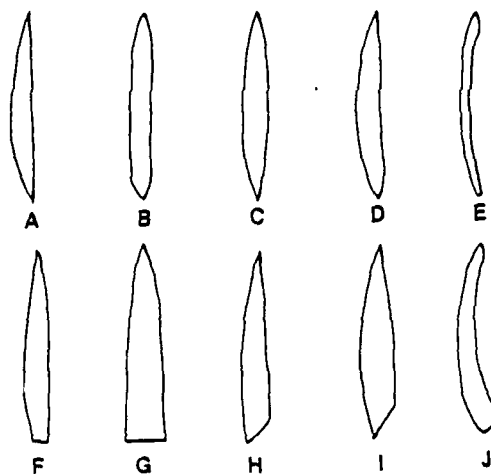
COMMONWEALTH ASSOCIATES, INC.

FIGURE E1
DESCRIPTION OF
PROJECTILE POINTS



- A. PLANO-CONVEX
- B. PLANO-TRIANGULAR
- C. BIPLANO
- D. BICONVEX
- E. BITRIANGULAR
- F. ASYMMETRICALLY BICONVEX
- G. ASYMMETRICALLY BITRIANGULAR
- H. CONVEXO-TRIANGULAR

TRANSVERSE SECTIONS



- A. PLANO-CONVEX
- B. BIPLANO
- C. BICONVEX
- D. ASYMMETRICALLY BICONVEX
- E. CONCAVO-CONVEX
- F. EXCURVATE
- G. OVATE OR TRIANGULAR
- H. ASYMMETRICALLY OVATE
- I. ASYMMETRICALLY EXCURVATE
- J. ASYMMETRICALLY CONCAVO-CONVEX

LONGITUDINAL SECTIONS

CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

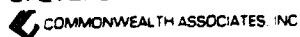
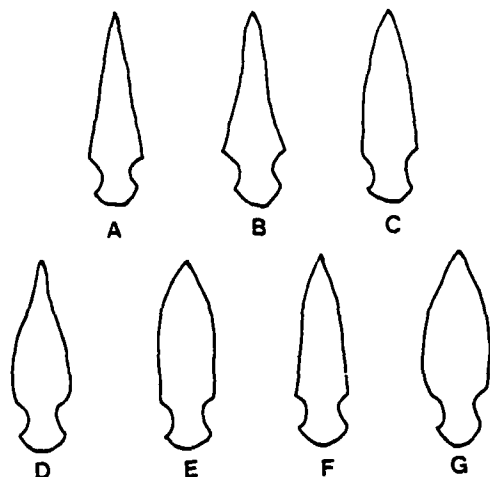
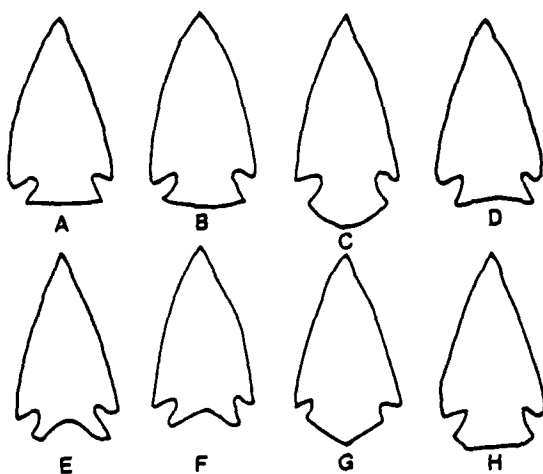


FIGURE E2
DESCRIPTION OF
PROJECTILE POINT SECTIONS
(FROM BINFORD 1963)



- A. TRIANGULAR
- B. OVATE
- C. INCURVATE
- D. EXCURVATE-INCURVATE
- E. PARALLEL-OVATE
- F. CONTRACTING-OVATE
- G. EXCURVATE

BLADE SHAPES



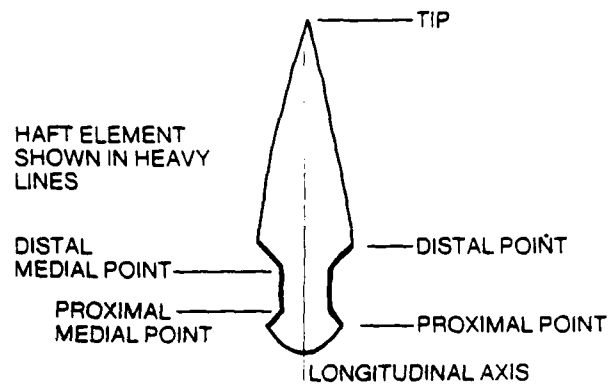
- A. STRAIGHT BASE
- B. SUBCONVEX BASE
- C. CONVEX BASE
- D. SUBCONCAVE BASE
- E. CONCAVE BASE
- F. TRIANGULO-CONCAVE BASE
- G. BIVECTORAL BASE
- H. TRIVECTORAL BASE

BASE SHAPES

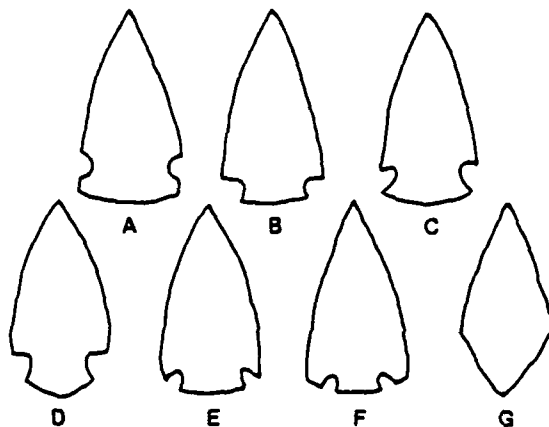
CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

COMMONWEALTH ASSOCIATES, INC.

FIGURE E3
DESCRIPTION OF
BASE AND BLADE SHAPES
FOR PROJECTILE POINTS
(FROM BINDORD 1963)

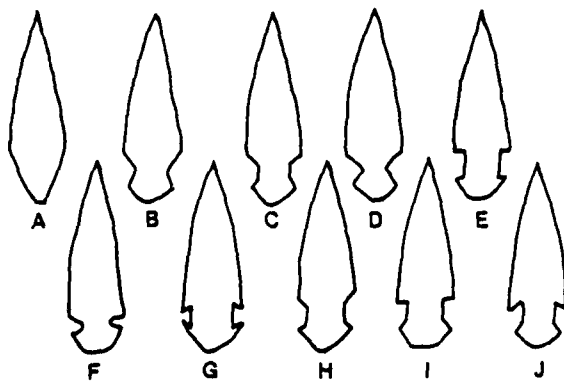


POINTS OF JUNCTURE



- A. LATERAL - LATERAL JUNCTURE
- B. LATERAL - BASAL JUNCTURE
- C. LATERAL - COINCIDENTAL JUNCTURE
- D. LATERAL - BASE DEFINING JUNCTURE
- E. COINCIDENTAL - BASAL JUNCTURE
- F. BASAL - BASAL JUNCTURE
- G. LATERAL - AXIAL JUNCTURE

JUNCTURE



- A. ABSENT
- B. OBTUSE
- C. BIOTUSE
- D. RIGHT-ANGLED
- E. BIRECT-ANGLED
- F. ACUTE
- G. BIACUTE
- H. OBTUSE-RIGHT-ANGLED
- I. RIGHT-ANGLED-OBTUSE
- J. MULTIJUNCTURE

MEDIAL POINTS

CULTURAL RESOURCES SURVEY OF PROPOSED
RECREATION & WILDLIFE AREAS AT THE
B. EVERETT JORDAN DAM & LAKE, NORTH CAROLINA

COMMONWEALTH ASSOCIATES, INC.

FIGURE E4
DESCRIPTION OF
HAFT ELEMENT JUNCTURES
(FROM BINFORD 1963)

APPENDIX F

JORDAN CODING MANUAL

BIFACES

**APPENDIX F
JORDAN CODING MANUAL
BIFACES**

Variable 1 Survey team, sample unit number, site number

Survey team A=1, B=2

Unit number is the recreational development area and includes 3, 4, 6, 9, 11, 20

Site numbers run consecutively per each recreational development area

Variable 2 Laboratory control bag number (run consecutively by bag)

Variable 3 Artifact number is the catalogue number (run consecutively by artifact per bag).

Variable 4 Type of collection unit

- 1 = shovel test
- 2 = road cut with shovel test
- 3 = lake edge with shovel test
- 4 = general surface
- 5 = road cut
- 6 = lake edge
- 7 = shovel test augmented by 1x1 m excavation unit
- 8 = general surface with shovel test
- 9 = no collection strategy
- 10 = general surface collection with 1x1 m excavation unit
- 11 = general surface with shovel test and 1x1 m unit
- 12 = no collection with shovel test
- 13 = collection circles, general surface, with shovel test

Variable 5 Lithic Material

1 = latite porphyry - green	10 = glomeroporphyritic latite
2 = andesitic felsite	11 = devitrified felsite
3 = latite felsite or tuff	12 = felsite - reddish-gray felsite
4 = tuff (welded?)	13 = andesitic porphyry
5 = latite porphyry - gray	14 = andesitic porphyry
6 = white quartz	15 = latite tuff
7 = felsic porphyry	16 = chert
8 = felsite - brownish-gray felsite	17 = crystal quartz
9 = light greenish-gray felsite	31 = unidentified

Variable 6 Condition

1 = whole	6 = tip missing
2 = tip	7 = base missing

- 3 = base
 4 = indeterminate end (either tip or base)
 5 = lateral section
 8 = lateral section missing
 9 = midsection

Variable 7 Flake blank orientation (Figure F1)

- 1 = distal orientation (platform of original flake blank coincides with tip of biface)
 2 = proximal orientation (platform of original flake blank coincides with base of biface)
 3 = lateral orientation (platform of original flake blank coincides with one of the lateral edges)
 4 = oblique orientation (platform of original flake blank is positioned obliquely to longitudinal axis of biface)
 5 = obscured (biface wholly present, but thinning has obscured position of original flake platform)
 6 = indeterminate or absent (fragment exhibits no evidence of platform)

Variable 8 Type of platform (Figure F1)

- 1 = flat (platform is composed wholly of cortex, flake scars are absent)
 2 = Ridged (biface edge)
 3 = Unifaceted (one flake scar)
 4 = Bifaceted (two flake scars)
 5 = Multifaceted (more than two flake scars)
 6 = indeterminate or absent (fragment does not exhibit platform)
 7 = Obscured (biface whole, but platform obscured by flaking)

Variable 9 Type of flake blank (Figure F1)

- 1 = Other flake (platform perpendicular to longitudinal axis of flake)
 2 = Other flake (platform parallel to longitudinal axis of flake)
 3 = Levallois flake
 4 = Large FBR
 5 = indeterminate

Variables 10 and 11 Percent of cortex - Faces 1 and 2

1 = 0%	4 = 51-75%
2 = 1-25%	5 = 76-100%
3 = 26-50%	

Analytical variables for biface reduction, Face 1 Variables 12-16; Face 2 Variables 17-21. Variable 12 (Figure F2)

Variable 12 Number of massive primary flake scars, invasive

Variable 13 Number of massive primary flake scars, marginal

Variable 14 Number of massive primary flake scars, invasive

Variable 15 Number of diminutive primary flake scars, marginal on side one. This variable was recorded for 69 bifaces and was recoded as Variable 44 into categories: 1 = 1-2, 2 = 3-5, 3 = 6-9, 4 = 10-13, 5 = 14-17, 6 = 18-20.

Variable 16 Number of marginal retouch flake scars

Variable 17 same as Variable 12

Variable 18 same as Variable 13

Variable 19 same as Variable 14

Variable 20 Number of diminutive primary flake scars, marginal on side two. This variable was recorded for 69 bifaces and was recoded as Variable 45 into categories: 1 = 1-2, 2 = 3-5, 3 = 6-9, 4 = 10-13.

Variable 21 Number of marginal retouch flake scars

Variable 22-24 (Figure F2)

Variable 25-30 (Figure F3)

Continuous Variables 31-36 measured in millimeters and grams

Variable 31 Maximum width was recorded for 56 bifaces. It was recoded as Variable 42 into the following categories: 1 = 10-21, 2 = 22-34, 3 = 35-48, 4 = 49-61, 5 = 62-69.

Variable 32 Maximum length was recorded for 17 bifaces. It was recoded as Variable 43 into the following categories: 1 = 14-29, 2 = 30-52, 3 = 53-76, 4 = 77-91.

Variable 33 Maximum thickness was recorded for 76 bifaces. It was recoded as Variable 41 into the following categories: 1 = 4-6, 2 = 7-12, 3 = 13-18, 4 = 19-25, 5 = 26-32, 6 = 33-39.

Variable 34 Height of Face 1 (Figure F3)

Variable 35 Height of Face 2 (Figure F3)

Variable 36 Weight in grams was recorded for 88 bifaces. This continuous variable was recoded into a categorical variable having the following categories: 1 = 1-21, 2 = 22-54, 3 = 55-87, 4 = 88-120, 5 = 121-153, 6 = 154-186, 7 = 187-214.

Variable 37 Aggregate (drainage areas)

1 = Lower New Hope
2 = Upper New Hope
3 = Morgan Creek
4 = White Oak Creek
5 = Beaver Creek

6 = Bush Creek
7 = Parkers Creek
8 = Kirts Creek
9 = Haw River

Edge angle Variables 38-40 measured in degrees

Variable 38 Average lateral side 1

Variable 39 Average lateral side 2

Variable 40 Average distal edge

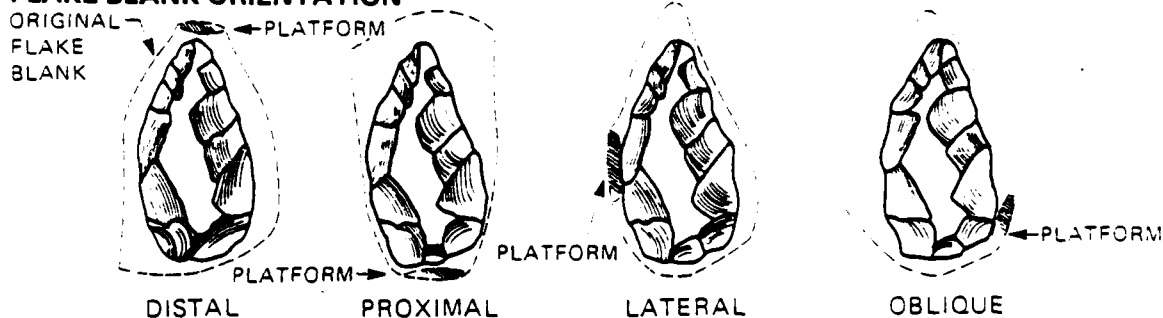
Variable 41 Tip angle measured in degrees (Figure F3)

Variable 42 Tip shape

0 = absent
1 = triangular
2 = ovate

3 = ovoid
4 = spiculate

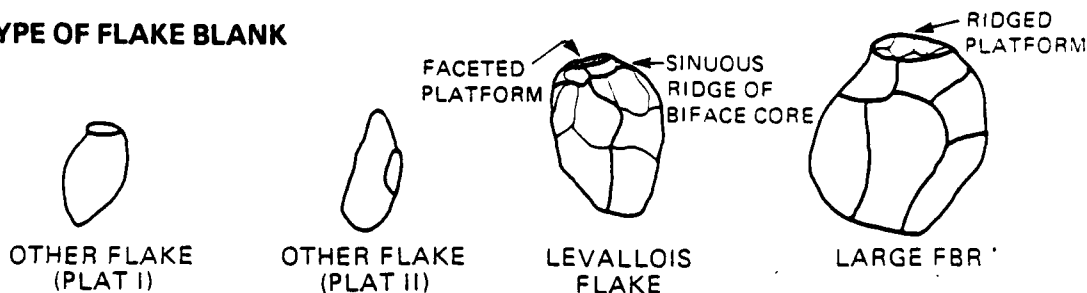
FLAKE BLANK ORIENTATION



TYPE OF PLATFORM PREPARATION

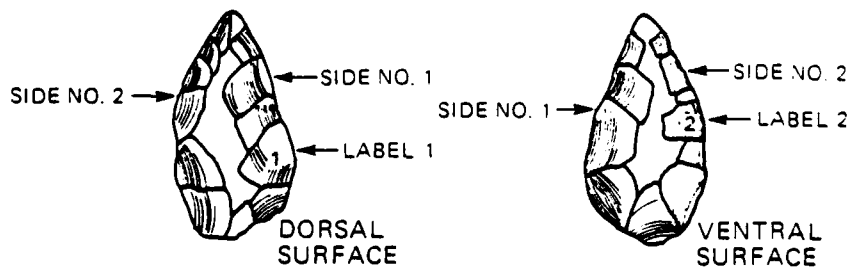


TYPE OF FLAKE BLANK



DEFINITIONS AND DIRECTIVES

FACE ORIENTATION — If a distinction can be made concerning the dorsal and ventral face of a biface blank, then the dorsal face should be referred to as Face No. 1 and the ventral face should be Face No. 2. If this is not possible (meaning that the initial flake characteristics have been obscured by bifacial flaking or that the biface in question was derived from a core or mass of material other than a flake blank), then reference is arbitrary. However, each face should be labeled so that it can be cross-referenced or reconstructed in future analyses. This can be accomplished to coincide with labelling for the lateral sides of each biface as well, so that Face No. 1 will also refer to Lateral Side No. 1. This is illustrated below:

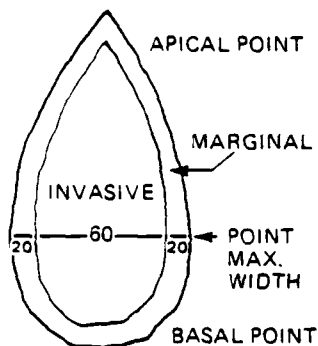


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FIGURE F1
BIFACE ATTRIBUTES

BIFACIALITY — This category of information was developed to monitor the variability in retouch treatments across the biface assemblage. Two concepts are central to this category: 1) location and 2) type of flake scar. Location is determined by the definition of two zones: a marginal zone and an invasive (or internal) zone. The marginal zone encompasses approx. 40% of the face of a biface and the invasive zone is designed to encompass the rest. These zones are depicted graphically below:



The marginal zone is thus figured by 1) calculating the width at any point (usually do this with three points), 2) obtaining a value of 20% of this width, and then 3) measuring in from the lateral margins the distance obtained by the second step. Usually take these measurements at the point of maximum width and one point on either side; this will give a best approximate measure.

Flake scars can be divided into three types based on size:

1. **MASSIVE PRIMARY SCAR:** Both dimensions exceed 10mm in distance.
2. **DIMINUTIVE PRIMARY SCARS:** Both dimensions of the scar exceed 5mm in distance, but at least one dimension does not exceed 10mm.
3. **MARGINAL RETOUCH:** At least one dimension of the scar does not exceed 5mm in distance.

Each scar type is monitored in terms of frequency of occurrence within the Marginal and Invasive zones of each face. A scar counted in the marginal zone should not be recounted in the invasive zone even if it overlaps.

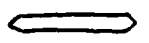
VAR. 22 SHAPE OF LATERAL/LATERAL OR LATERAL/DISTAL INTERSECTION

0	—	MISSING	
1	—	OVATE (Curved expanding lat. edges intersecting in a point)	— 
2	—	OVOID (Curved expanding lateral edges with rounded tip)	— 
3	—	TRIANGULAR (Straight expanding lat. edges intersecting in a point)	— 
4	—	SUBRECTANGULAR (Semi-parallel and straight lateral edges connected by a perpendicular distal edge)	— 

VAR. 23 SHAPE OF LATERAL/PROXIMAL INTERSECTION

0	—	MISSING	4	—	SUBRECTANGULAR
1	—	OVATE	5	—	TRAPEZOID — 
2	—	OVOID	6	—	SUBTRAPEZOID — 
3	—	TRIANGULAR			

VAR. 24 TRANSVERSE SECTION OF BLADE (Orient so that tip faces observer)

1	—	PLANO-CONVEX		1.	
2	—	PLANO-TRIANGULAR		2.	
3	—	BIPLANO		3.	
4	—	BICONVEX		4.	
5	—	BITRIANGULAR			
6	—	ASYMMETRICALLY-BICONVEX			
7	—	ASYMMETRICALLY-BITRIANGULAR			
8	—	CONVEXO-TRIANGULAR			
9	—	IRREGULAR			

VAR. 25 LONGITUDINAL SECTION

1 - PLANO-CONVEX	6 - EXCURVATE
2 - BIPLANO	7 - OVATE OR TRIANGULAR
3 - BICONVEX	8 - ASYMMETRICALLY-OVATE
4 - ASYMMETRICALLY BICONVEX	9 - ASYMMETRICALLY-EXCURVATE
5 - CONCAVO-CONVEX	10 - ASYMMETRICALLY-CONCAVO-CONVEX

VAR. 26-29 FORM OF LATERAL EDGE NO. 1, LATERAL EDGE NO. 2, DISTAL EDGE, PROXIMAL EDGE.

- | |
|---|
| 1 - SERRATION |
| 2 - EVEN (Chipped) |
| 3 - EVEN (Ground) |
| 4 - SINUOUS (Marginal Scars < 5mm) |
| 5 - SINUOUS (Diminutive Primary Scars > 5mm < 10mm) |
| 6 - SINUOUS (Massive Primary Scars > 10mm) |
| 7 - POINT |
| 8 - IRREGULAR |

VAR. 30 SYMMETRY OF BLADE

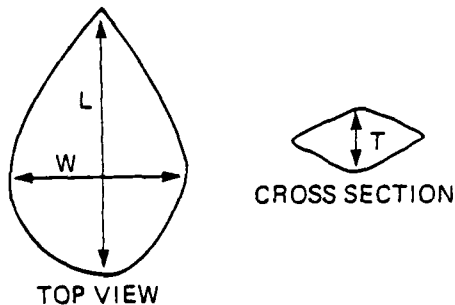
- | |
|------------------|
| 1 - SYMMETRICAL |
| 2 - ASYMMETRICAL |

METRIC ATTRIBUTES

VAR. 31 MAXIMUM WIDTH

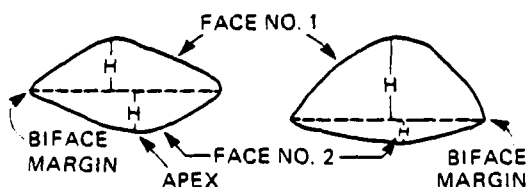
VAR. 32 MAXIMUM LENGTH

VAR. 33 MAXIMUM THICKNESS

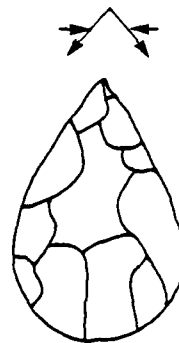


VAR. 34 HEIGHT OF FACE NO. 1

VAR. 35 HEIGHT OF FACE NO. 2



VAR. 41 TIP ANGLE



APPENDIX G

JORDAN CODING MANUAL

UNIFACE, RETOUCED FLAKE, AND UTILIZED FLAKE ANALYSIS

APPENDIX G
JORDAN CODING MANUAL
UNIFACE, RETOUCED FLAKE, AND UTILIZED FLAKE ANALYSIS

Variable 1 Survey site number, Survey team A=1, B=2; recreation development areas surveyed 3, 4, 6, 9, 11, 20; field site number runs consecutively per development area.

Variable 2 Laboratory bag number

Variable 3 Artifact catalogue number, run consecutively per bag

Variable 4 Method of collection

- 1 = shovel test
- 2 = road cut with shovel test
- 3 = lake edge with shovel test
- 4 = general surface
- 5 = road cut
- 6 = lake edge
- 7 = shovel test augmented by 1x1 m excavation unit
- 8 = general surface with shovel test
- 9 = no collection strategy
- 10 = general surface collection with 1x1 m excavation unit
- 11 = general surface with shovel test and 1x1 m unit
- 12 = no collection with shovel test
- 13 = collection circles, general surface, with shovel test

Variable 5 Lithic Material

1 = latite porphyry - green	10 = glomeroporphyritic latite
2 = andesitic felsite	11 = devitrified felsite
3 = latite felsite or tuff	12 = felsite - reddish-gray felsite
4 = tuff (welded?)	13 = andesitic porphyry
5 = latite porphyry - gray	14 = andesitic porphyry
6 = white quartz	15 = latite tuff
7 = felsic porphyry	16 = chert
8 = felsite - brownish-gray felsite	17 = crystal quartz
9 = light greenish-gray felsite	31 = unidentified

Variable 6 Condition

- 1 = whole, 2 = broken

Variable 7 Flake type

- 1 = FBR, 2 = other, 3 = obscured, 4 = chunk

Variable 8 Percent cortex:

0 = None	3 = 51-75 percent
1 = 1-25 percent	4 = 75-100 percent
2 = 26-50 percent	

Variable 9 Placement of primary scars

0 = Absent	2 = Ventral only
1 = Dorsal only	3 = Unifacial obscured

Variable 10 Platform orientation

1 = Parallel	3 = Oblique
2 = Perpendicular	4 = Obscured

Definitions:

Parallel = Platform oriented so that axis of percussion of flake and longitudinal axis are parallel.

Perpendicular = Platform oriented so that axis of percussion of flake intersects longitudinal axis in a roughly 90° angle.

Oblique = Platform oriented so that axis of percussion of flake intersects longitudinal axis at an oblique angle.

Variable 11 Size class

- 1 = 0-20 millimeters; 2 = 21-40 millimeters; 3 = 41-60 millimeters; 4 = 61-80 millimeters

Edge outline Variables 12-15 (See Figure G1).

Variable 12 Distal edge

1 = concave	6 = concavo-convex
2 = subconcave	7 = projection
3 = straight	8 = denticulated
4 = convex	9 = irregular
5 = subconvex	

Variable 13 Left lateral edge (coded same as Variable 12)

Variable 14 Right lateral edge (coded same as Variable 12)

Variable 15 Proximal edge (coded same as Variable 12)

Variable 16 Top view outline (see Figure G2)

1 = triangular	5 = subrectangular
2 = oval	6 = semicircular
3 = discoidal	7 = irregular

Variable 17 Transverse: bottom outline (see Figure G2)

1 = plano	4 = concavo-convex
2 = subconvex	5 = expanding subconcave
3 = subconcave	

Variable 18 Transverse: top outline (see Figure G2)

1 = median-ridged convex	5 = unequal quadrilateral
2 = convex	6 = subconvex
3 = isosceles triangular	7 = amorphous
4 = non-equilateral triangular	

Variable 19 Longitudinal: bottom outline observed along longitudinal axis

1 = plano	4 = concavo-convex
2 = subconvex	5 = expanding subconcave
3 = subconcave	

Variable 20 Longitudinal section: top view

1 = convex	6 = non-equilateral triangle
2 = subconvex	7 = isosceles triangle
3 = expanding convex	8 = trapezium
4 = subconvex, expanding trapezium	9 = trapezoid
5 = expanding recurvate	10 = irregular

Primary flake scars Variables 21-24

Primary shaping scars are distinguished from core reduction scars by their negative bulbs of percussion appearing at the dorsal/ventral margin.

Variable 21 Distal end

- 0 = absent, 1 = present, 2 = indeterminate

Variable 22 Left lateral side

- 0 = absent, 1 = present, 2 = indeterminate

Variable 23 Right lateral side

- 0 = absent, 1 = present, 2 = indeterminate

Variable 24 Proximal end

- 0 = absent, 1 = present, 2 = indeterminate

Marginal retouch Variables 25-28

Marginal retouch scars extend from the perimeter for less than 1/3 of either surface.

Variable 25 Distal end

0 = absent, 1 = present, 2 = indeterminate

Variable 26 Left lateral side

0 = absent, 1 = present, 2 = indeterminate

Variable 27 Right lateral

0 = absent, 1 = present, 2 = indeterminate

Variable 28 Proximal end

0 = absent, 1 = present, 2 = indeterminate

Marginal retouch technique Variables 29-32

Variable 29 Distal end

0 = absent, 1 = unstepped, 2 = stepped

Variable 30 Left lateral side

0 = absent, 1 = unstepped, 2 = stepped

Variable 31 Right lateral side

0 = absent, 1 = unstepped, 2 = stepped

Variable 32 Proximal end

0 = absent, 1 = unstepped, 2 = stepped

Haft element Variables 33-35

Variable 33 Presence/absence of haft element

0 = absent, 1 = present

Variable 34 Form of tang (see Figure G3)

0 = absent, 1 = parallel, 2 = contracting

Variable 35 Haft juncture (see Figure G3)

0 = absent
1 = shouldered

2 = bilateral notched
3 = unilateral notched

Tool combination Variables 36-37

Variable 36 Tool combination type - none in collection

Variable 37 Placement

Continuous metric Variables 30-41 for length of utilized edges measured in millimeters

Variable 38 Distal end length. Recoded as Variable 60 where 1 = -36, 2 = 37-53, 3 = 54-66.

Variable 39 Left lateral length. Recoded as Variable 61 where 1 = -35, 2 = 36-49, 3 = 50-59.

Variable 40 Right lateral length. Recoded as Variable 62 where 1 = -32, 2 = 33-44, 3 = 45-55.

Variable 41 Proximal end length. Recoded as Variable 63 where 1 = -40, 2 = 41-60, 3 = 61-71.

Variable 42 Aggregate (drainage areas)

1 = Lower New Hope
2 = Upper New Hope
3 = Morgan Creek
4 = White Oak Creek
5 = Beaver Creek

6 = Bush Creek
7 = Parkers Creek
8 = Kirts Creek
9 = Haw River

Variable 43 Maximum width position (Figure G3)

1 = proximal bulb of percussion, 2 = midsection, 3 = distal end

Continuous metric Variables 44-47 measured in millimeters

Variable 44 Maximum width. Recoded as Variable 63 where 1 = -40, 2 = 41-60, 3 = 61-71.

Variable 45 Maximum length. Recoded as Variable 64 where 1 = -39, 2 = 40-47, 3 = 48-53.

Variable 46 Maximum thickness. Recoded as Variable 65 where 1 = -15, 2 = 16-23, 3 = 24-28

Variable 47 Weight measured in grams. Recoded as Variable 66 where 1 = -34, 2 = 35-61, 3 = 62-73.

Edge angles Variables 48-59 measured in degrees

Distal edge of flake tool:

Variable 48 Left 1/4 of margin
Variable 49 Center of margin
Variable 50 Right 1/4 of margin

Left lateral edge of flake tool:

Variable 51 Distal 1/4 of margin
Variable 52 Center of margin
Variable 53 Proximal 1/4 of margin

Right lateral edge of flake tool:

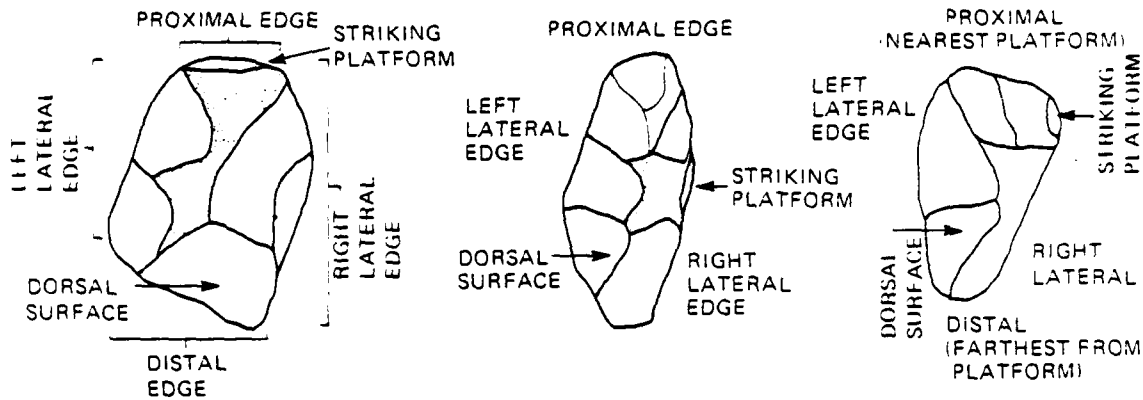
Variable 54 Distal 1/4 of margin
Variable 55 Center of margin
Variable 56 Proximal 1/4 of margin

Proximal edge of flake tool:

Variable 57 Left 1/4 of margin
Variable 58 Center of margin
Variable 59 Right 1/4 of margin

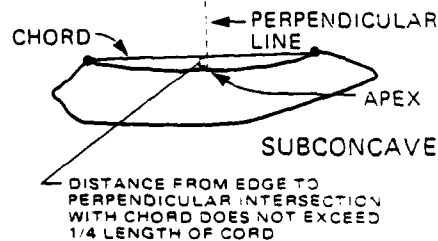
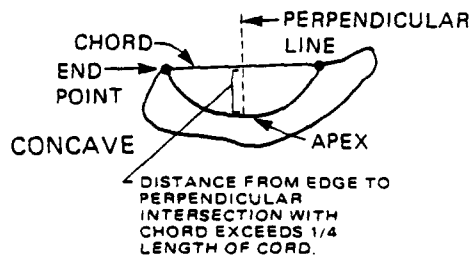
DEFINITION OF EDGES: To maintain comparability of edges, the following procedure has been developed.

1. For Parallel Platform Orientation:
2. For Perpendicular Orientation: (PLATFORM PLACED TO RIGHT)
3. For Oblique Orientation: (PLATFORM PLACED TO RIGHT)

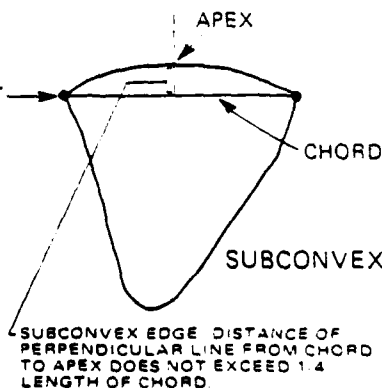
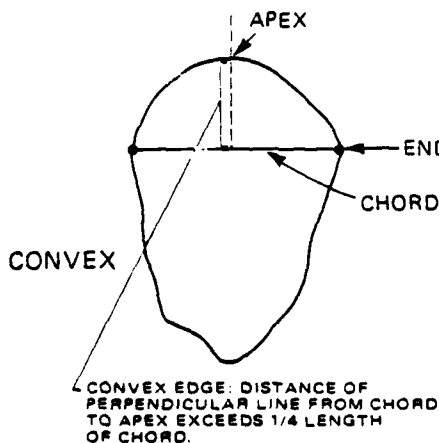


EDGE OUTLINE: DEFINITIONS

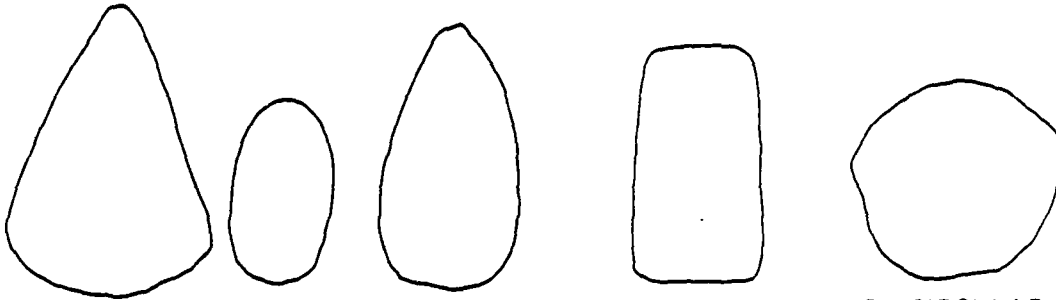
CONCAVE VS. SUBCONCAVE: A concave edge describes a concave line between the two end points of an edge where a perpendicular line constructed from the chord to the apex of the arc exceeds one-fourth the length of the chord which is drawn through the end points of the edge.



CONVEX VS. SUBCONVEX: Same relationship holds as described above, but position of chord is inverted:

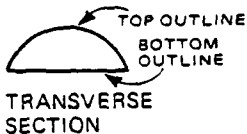


TOP VIEW OUTLINE:



TRIANGULAR: 1 OVAL: 2 DISCOIDAL: 3 SUBRECTANGULAR: 5 SEMICIRCULAR: 6

TRANSVERSE SECTION – BOTTOM OUTLINE: Transverse section bisects and is perpendicular to the longitudinal axis of the item.



PLANO: 1
SUBCONVEX: 2
SUBCONCAVE: 3
CONCAVO-CONVEX: 4
EXPANDING SUBCONCAVE: 5



TRANSVERSE SECTION – TOP OUTLINE

MEDIAN-RIDGED CONVEX: 1
CONVEX: 2
ISOSCELES TRIANGULAR: 3
NON-EQUILATERAL TRIANGULAR: 4
UNEQUAL QUADRILATERAL: 5



SUBCONVEX: 6
AMORPHOUS: 7



LONGITUDINAL SECTION – BOTTOM VIEW: Longitudinal axis of item

PLANO: 1
SUBCONVEX: 2
SUBCONCAVE: 3
CONCAVO-CONVEX: 4
EXPANDING SUBCONCAVE: 5

LONGITUDINAL SECTION – TOP VIEW



CONVEX: 1



SUBCONVEX: 2



EXPANDING
CONVEX: 3



SUBCONVEX,
EXPANDING
TRAPEZIUM: 4



EXPANDING
RECURVATE: 5



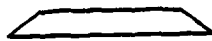
NON-EQUILATERAL
TRIANGLE: 6



ISOSCELES
TRIANGLE: 7



TRAPEZIUM: 8



TRAPEZOID: 9

IRREGULAR: 10

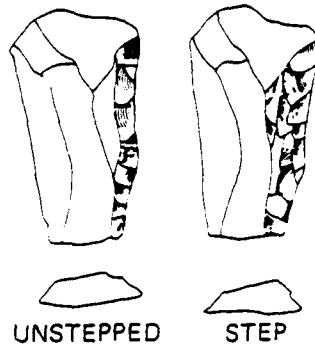
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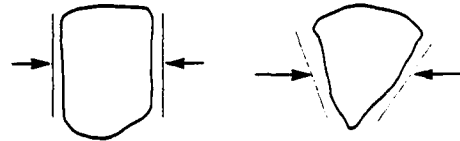
**FIGURE G2
UNIFACE SHAPES &
CROSS SECTIONS**

MARGINAL RETOUCH TECHNIQUE:

- 0: ABSENT
- 1: UNSTEPPED — Only a single row of retouch scars.
- 2: STEPPED — Several rows of concoidal scars at a steep angle.

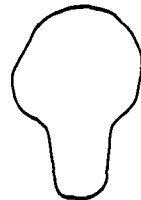


TANG FORM: (Relationship of Lateral Edges)



- 0: ABSENT
- 1: PARALLEL
- 2: CONTRACTING

HAFT JUNCTURE



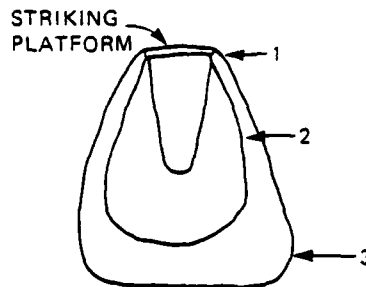
0: ABSENT

1: SHOULDERED

2: BILATERAL NOTCHED

3: UNILATERAL NOTCHED

MAXIMUM WIDTH POSITION



APPENDIX H

JORDAN CODING MANUAL

DEBITAGE

1

**APPENDIX H
JORDAN CODING MANUAL
DEBITAGE**

Variable 1 Survey team, sample unit number, site number

Survey team A=1, B=2

Recreation Development areas surveyed include 3, 4, 6, 9, 11, 20 unit number, site numbers run consecutively per each recreational and development area.

Variable 2 Laboratory control bag number (run consecutively by bag)

Variable 3 Artifact number is the catalogue number (run consecutively by artifact per bag)

Variable 4 Type of collection unit

- 1 = shovel test
- 2 = road cut with shovel test
- 3 = lake edge with shovel test
- 4 = general surface
- 5 = road cut
- 6 = lake edge
- 7 = shovel test augmented by 1x1 m unit
- 8 = general surface with shovel test
- 9 = no collection
- 10 = general surface with 1x1 m unit
- 11 = general surface with shovel test and 1x1 m unit
- 12 = no collection with shovel test
- 13 = collection circles and general surface with shovel test

Variable 5 Lithic material (based on Claggett and Cable 1982: Appendix A)

1 = latite porphyry - green	10 = glomeroporphyritic latite
2 = andesitic felsite	11 = devitrified felsite
3 = latite felsite or tuff	12 = felsite - reddish-gray felsite
4 = tuff (welded?)	13 = andesitic porphyry
5 = latite porphyry - gray	14 = andesitic porphyry
6 = white quartz	15 = latite tuff
7 = felsic porphyry	16 = chert
8 = felsite - brownish-gray felsite	17 = crystal quartz
9 = light greenish-gray felsite	31 = unidentified

Variable 6 Condition

- 1 = whole, 2 = broken (irregular)

Continuous metric Variables 7-9 (see Figure H1)

Variable 7 Maximum length measured from bulb of percussion to distal end in millimeters. Recoded as Variable 27 with categories 1 = -13, 14-26, 27-41, 42-56, 56-135

Variable 8 Maximum width of flake measured in millimeters perpendicular to the axis of percussion. Recoded as Variable 25 with categories 1 = -10, 11-21, 22-31, 32-41, 42-51, 52-99

Variable 9 Maximum thickness of flake measured in millimeters. Recoded as Variable 26 with categories 1 = -5, 2 = 6-11, 3 = 12-17, 4 = 18-23, 5 = 24-43

Variable 10 Flake type

1 = FBR, 2 = Other, 3 = Obscured, 4 = Chunk

Variable 11 Reduction stage

1 = primary, 1 = secondary, 3 = tertiary

Variable 12 Platform type

1 = all cortex

2 = unifaceted with cortex

3 = unifaceted with no cortex

4 = bifaceted

5 = multifaceted

Variable 13 Platform orientation

1 = parallel, 2 = perpendicular, 3 = oblique, 4 = obscured (Figure H1)

Continuous metric Variables 14-16, measured for platform (Figure H1)

Variable 14 Platform width measured in millimeters. Recoded as Variable 27 where 1 = -12, 2 = 13-21, 3 = 22-30, 4 = 31-39, 5 = 40-65

Variable 15 Platform thickness measured in millimeters. Recoded as Variable 28 where 1 = -4, 2 = 5-8, 3 = 9-12, 4 = 13-16, 5 = 17-27

Variable 16 Platform angle measured in degrees. Recoded as Variable 29 where 1 = -89, 2 = 90-103, 3 = 104-117, 4 = 118-131, 5 = 132-162

Variable 17 Number of dorsal scars greater than 5 millimeters

Variable 18 Lipping

0 = absent, 1 = present

Variable 19 Ercillure

0 = absent, 1 = present

Variable 20 Chunk weight measured in grams

Variable 21 Size class

1 = 0-20 millimeters, 2 = 21-40 millimeters, 3 = 41-60 millimeters, 4 = 61-80 millimeters, 5 = 81-100 millimeters, 6 = 101-120 millimeters

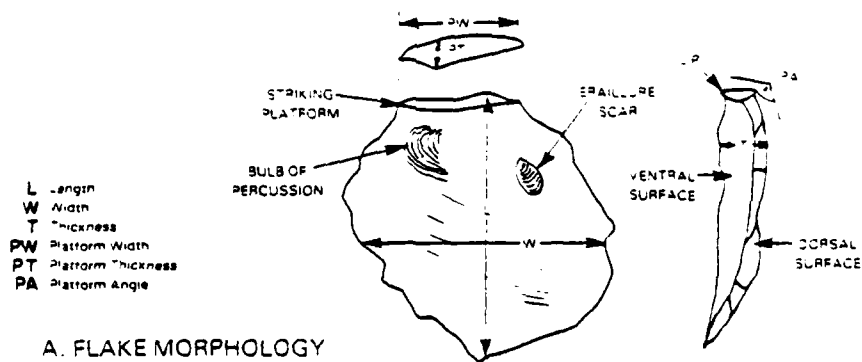
Variable 22 Broken

0 = broken, 1 = whole

Variable 23 Aggregate (drainage areas)

1 = Lower New Hope
2 = Upper New Hope
3 = Morgan Creek
4 = White Oak Creek
5 = Beaver Creek

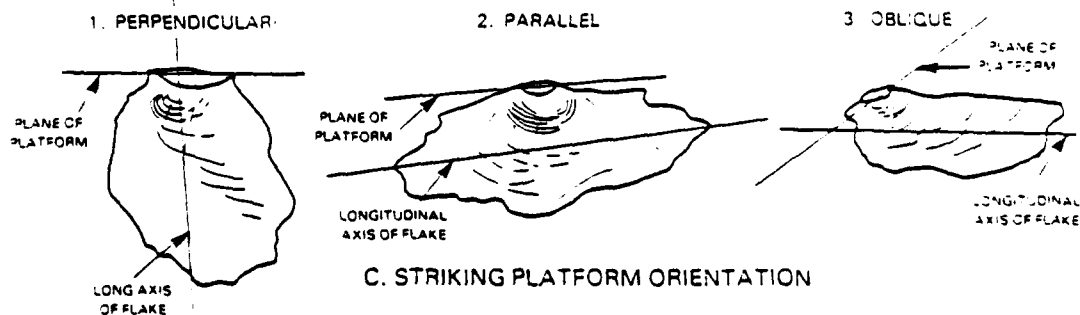
6 = Bush Creek
7 = Parkers Creek
8 = Kirts Creek
9 = Haw River



A. FLAKE MORPHOLOGY



B. PLATFORM TYPES

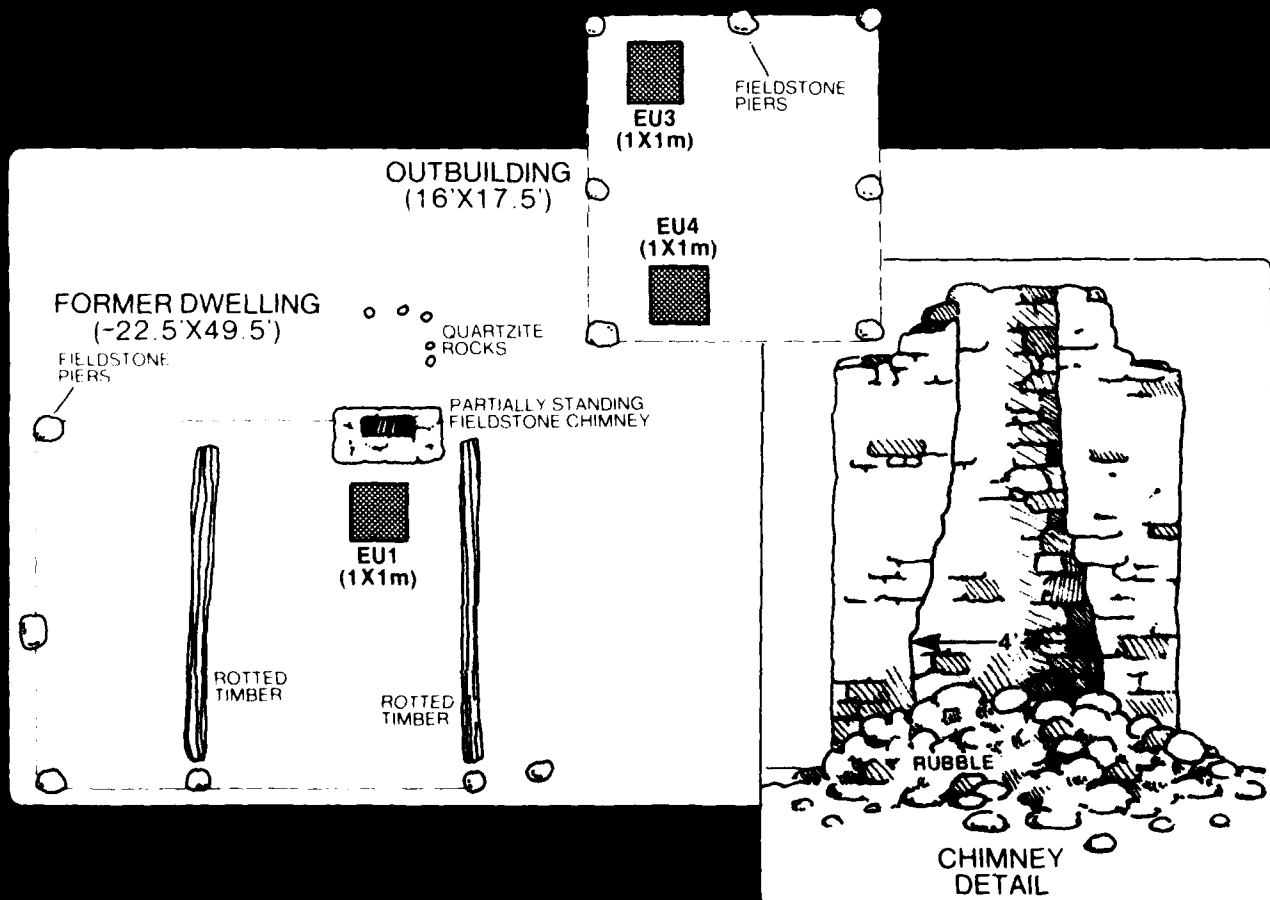


C. STRIKING PLATFORM ORIENTATION

CULTURAL RESOURCES SURVEY OF PROPOSED
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FIGURE H1
IDEALIZED FLAKE MORPHOLOGY
FOR DEBITAGE & UNIFACE ANALYSIS



GILBERT COMMONWEALTH

DATE
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